Ethnographic Survey of India

CRANIOLOGICAL DATA

FROM THE

INDIAN MUSEUM, CALCUTTA

Published by permission of the Trustees of the Indian Museum.

CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA,
1909

Price Re. 1 or 1s. 6d.

INTRODUCTION.

In collecting data or materials for the craniology of the people of the Indian Empire recorded in this place, I have closely followed Sir William Turner. The Indian Museum contains 614 skulls, but many of them are broken and many others do not show in the register the caste or tribe of the subject. A strictly territorial arrangement of these measurements would not be as accurate as that registering the racial peculiarities as well, because, in India, the endogamous system of marriage between the members of a caste has typified certain traits, which it is the object of ethnology to describe. Specimens marked merely "Medical College—Calcutta," "Campbell-Hospital", "Hindu", "Musalman", "Bengali," etc., could not be grouped or sorted according to their castes or tribes. Most of the specimens available in Calcutta belong naturally to Bengal, Assam, Chutia Nagpur, Orissa and its neighbourhood, collected in hospitals or jails; they belong to people of the poorest and lowest social stratum. Middle and high class people do not generally send their relations to the hospital, nor are the bodies of the members of respectable families allowed to be dissected even if they happen to die in jails. A poor relation, a poor casteman, or even a poor countryman, in the restricted sense in which it means a native of the same village, is cremated or buried by his own people and it is only in isolated cases of the cremating twice-borns that one can get a cranium. A man may have been born in Calcutta and yet his parents may have come down from Kashmir. In such a case the birth-place or caste alone would be misleading. I may quote an example of the type. Once I saw a young man about 22 years of age at the Victoria Memorial Exhibition in the Indian Museum and asked him if he was a Kashmiri Pandit. On his replying in the affirmative I asked him if he was related to the late Justice Sambhunāth. He nodded assent, but looked surprised. I further asked him, if he was the son of Pandit Prānnāth Saraswati. "Yes, Sir," said the young man, and gently added, "But how do you know all this?" I replied, "Your features tell me that!" Pandit Sambhunāth's family has been living in Calcutta for four generations and those features peculiar to the Brahmans of Kashmir have been maintained. If the skull of any such individual were labelled merely Brahman—birth-place—Calcutta—it would be mistaken for that of a Bengali—even of the Mongolo-Dravidian type. There are

Brahmans and Brahmans. One has therefore to be very careful in sorting his collection of the skulls to be measured. I have tried to do so, but with what result I am unable to say at present. Territorial influence or rather the influence of environments has also to be counted. In this connection I have grouped all the Burmese, Bengalis and *Oriyas* together in spite of the fact that there are numerous castes or tribes or endogamous groups in each of these tracts. In order to show the directions in which investigation in craniology may proceed in India, I have sorted those that I have measured into several groups: territorial, tribal, professional, intellectual, etc. In order to supplement the contributions to the craniology of the Indian races edited by Sir William Turner, I have adopted Sir Herbert Risley's system of showing by diagrams what mere figures fail to show at a glance. It is therefore hoped that this nucleus of the craniology of the people of the Indian Empire, compiled in conformity with Sir William Turner's methods as adopted by Dr. Annandale and as classified and illustrated by Sir Herbert Risley will prove useful in collecting a large number of skulls for further investigation, which is sure to prove a valuable acquisition to the science of Ethnology. It is not possible to draw any definite conclusions from the small collection of skulls thus available and therefore no attempt is made to generalize. The results of the measurements have been grouped in accordance with the accepted classifications as modified by territorial and caste environment. This is thus only an attempt to illustrate and popularise the science of craniometry and to encourage the collection of skulls for future investigation, accurately labelled for the purpose. I appeal to the medical graduates of India to exert themselves and to get as many crania as possible for being forwarded to the Indian Museum, Calcutta, where I shall be glad to take all the necessary anthropometrical notes and to publish them from time to time.

General Remarks; Cubic Capacity—Our collection shows that out of the 78 skulls in which the cranial capacity could be recorded by caste, 49 are microcephalic or below 1350 m. m, 16 are mesocephalic or from 1350 to 1450, and 13 magacephalic or above 1450. The largest or the most capacious head in the collection comes from Prome in Burma [No. 409, 1620 m.m.] and the smallest belongs to a Kol, viz. 1070. Territorially, the largest heads come from Darjeeling, Cachar, Assam, and Burma, the middle-sized crania hail from Darjeeling, the Malay region, Burma, Assam, Ranchi, Manbhum, and Orissa Hills, and the smallest size comes from the Nicobars, Cachar, Calcutta, Ceylon, Upper Godavari, Malda, Nadia, and Australia. The collection under examination comes mostly from the eastern part of the Indian Empire and shows 62·8 per cent of small heads, 20·5 middle-sized heads, and 16·8 of the large heads. The eastern part of India proper, therefore, shows a large proportion of small heads, Burma, Assam, and Darjeeling or the Mongoloid tract shows a larger head than the Mongolo-Dravidian

tract of Bengal and the Ultra Dravidian portion of Madras and Ceylon. This is but natural when it is understood that the Aborigines of India were small-headed people, and that the larger proportion of the larger head indicates a strain of the Mongoloid race corroborated by the almond-shaped eyes, broad faces, and flat noses.

The following gradation represents the highest capacity of the cranial cavity attained in each caste, as far as the present limited investigation shows :—

Lepcha of Darjeeling	1690
Chinese domiciled in Calcutta	1570
Bhotia—Darjeeling	1525
Kuki—Kachar	1520
Gurung—Darjeeling	1515
Murmi—Darjeeling	1510
Ladākhí of Darjeeling	1490
Kol of Singbhum	1470
Muchi of Calcutta	1460
Khambu of Darjeeling	1450
Bhuiya or Bhumia of Orissa	1438
Orāon of Ranchi	1430
Juāng of Orissa Hills	1420
Santāl of Maubhum	1414
Limbu of Darjeeling	1410
Khāmti of Assam-Burma frontier Hills	1390
Munda of Ranchi	1380
Shān of Burma	1380
Sherpa Bhotia of Darjeeling	1380
Teli of Ranchi	1370
Malay	1360
Nicobarian	1345
Papuan of New Guinea	1340
Sunnwár of Darjeeling	1330
Singhalese	1320
Teli of Malda	1310
Kalu (Oil man) in Calcutta	1300
Kaibarttā of Midnapur	1300
Muchi of Calcutta	1300
Gāro of the Gāro Hills	1280
Eurasian of Calcutta	1280
Bhuiya of Ranchi	1270
Koya or Koyadore of the Upper Godavari District	1270
Banjāra of the Upper Godavari District	1260
Dhobi of Calcutta	1260
Musalmān of Nadia	1260
Australian	1260
Kisān of Chutia-Nagpur	1250
Lohār of Ranchi	1240
Dhobi of Birbhum	1200
Kandh from Kandhmal	1070

* Topinard tells us at page 229, Chapter II, of his Anthropology, that the inferior races have a less capacity than the superior. Here, Kols are the lowest in the scale, having 1070 as the lowest capacity recorded in cubic centimetres. The Dhobi of Birbhum, Lohār of Ranchi, the Kisān of Chutia-Nagpur, a Musalman of Nadīa, a Dhobi of Calcutta, a Banjāra of the Upper Godavari District, a Kōya of the same tract, a Bhuiya of Ranchi, a Eurasian of Calcutta, and the Gāro of the Gāro Hills are all examples of the low type. The smallest cranial capacity*recorded by Topinard was 1093 in a native of the Andaman Islands (p. 299, Chapter II) while the one recorded here is 1070 in a Kandh. The cranial capacity seems to vary to some extent according to intellectual endowment.

THE VERTICAL INDEX.

The vertical index or index of the height gives the form of the skull according to an antero-posterior section, which divides the cranial orbid into two lateral halves, in the same way as the cephalic index gives the form of the skull as is shown by the *norma verticalis* of Blumenbach. It is the relation of the vertical diameter to the maximum antero-posterior diameter. Its formula is $\frac{\text{Vertical Diameter} \times 100}{\text{Antero posterior Dia.}}$.† It is also called altitudinal index and has been calculated from the relations between the basi-bregmatic height and the glabello-occipital length. It is therefore an expression of the relation of length to height.‡

Skulls with a low vertical index are called platy-cephālic or tapeio-cephalic and those with high index acrocephalic or hypsicephalic. Those of moderate altitude are called metrio-cephalic. Tapeinocephalic below 72; Metriocephalic between 72 and 77. Acrocephalic above 77. But there is another classification suggested:—

(1) Chamoecephalic (flat skulls) up to 70,

(2) Orthocephalc from 70·1 to 75.

(3) Hypsicephalic (high skulls) 75—1 and upwards; but the term metriocephalic is considered preferable.§ English authors prefer the former order and classification, and the same plan is followed here.

Thus, out of the specimens measured under this heading, 60 are Acrocephalic; of these, again, 20 are above 80. The highest index comes naturally from Burma (No. 38) and stands at 87—88 and 87·10 (No. 426). The Burma No. 453 is 85—90. The Khamti of the Assam Hill (No. 388) reaches 84·24, while the Nicobarian No. 2 attains 84·15. Then there is a Burmese again (No. 463) at 83·33, a Khambu No. 70 of Assam 82·61, a Burmese (No. 39) 82·35 and Oriya undefined (No 417) 82·9. Three Oriya (Nos. 412, 149, and 130) get 81, 11, and 81·08 respectively. A Bhumia of Orissa (No. 439, has 81·1 as his vertical index

* Topinard, Chapter II, page 229.

† Topinard's Anthropology, p. 242.

‡ Report on the Scientific Results of the Exploring Voyage of H. M. S. Challenger, Vol. X, p. 5.

§ "Challenger" Report, Vol. X, p. 5.

and another Burman (No. 437), 81·25. Those with 80 to 81 as their vertical index are six, four Burmans (464, 465, 429, and 455) and one Oriya (No. 4) and another No. 410.

There are a dozen skulls with 79 to 80 as the index. Five are Burmese, 1 (No. 34) Andamanese, one, (No. 433) a Juāng, two Oriyas and one undefined Bengali; at 77—78 there are 5 Burmans, 6 Oriyas, 4 Andamanese, 2 Kukis, and 1 each of Kāndh, Kol, Muchi, Munda, Sherpa Bhotia, Singhalese, Kaibartta, Banjāra, Gurung, Gāro, and Lepcha. 77·35 is the Chinese skull.

There are 80 Metriocephalic skulls in the Indian Museum; of these, 19 are Burmese, 12 Oriyas, 8 Bengalis, 5 Bhotias, 4 Kols, 2 Lepchas, 2 Mundas, 2 Ladākhi 2 Muchi, and Teli, and one each of Murmi, Australian, Eurasian, Limbu, Malay, Bhumia, Musalman, Andamanese, Gurung, Korwa, Juāng, Dhobi, Gāro Orāon, Bhuiya, Chinese, Australian, Papuan, and Sherpa Bhotia.

Of the Tapeinocephalic there are 29 in all, consisting of 3 Bengalis, 3 Oriyas, 3 Oraons, 2 Mundas, 2 Burmese, 2 Limbu, and one each of Lepcha, Kalu, Sunnwar, Khambu, Bhuiya, Papuan, Dhobi, Bhumia, Santāl, Shan, Bhotia, Koya, Murmi, and Kuki.

CEPHALIC INDEX.

The length-breadth or cephalic index has been calculated from the relations between the greatest breadth and the glabello-occipital length, in conformity with the method adopted by Dr. Barnard Davis, Professors Rolleston and Flower, and Sir Herbert Risley. There are three classes of crania :—

(1) Long heads 70 to 75 called Dolicho-cephalic,

(2) Medium heads 75 to 80 called Meso-cephalic,

and

(3) Broad heads over 80 called Brachy-cephalic.

Of the 168 heads measured under this head 51 are Brachy-cephalic with an index above 80. Of these 51, that numbered 70, which belongs to a Khambu from Darjeeling, is extraordinarily flat behind and possibly indicates the artificial method of shaping skulls practised by some primitive folk producing a cephalic index 98·55. There are two skulls above 90 as index and they are naturally all Burmese (No. 453, 93·59, and No. 38, 92·12). They prominently display the broad-headed characteristic of the Mongoloid races. Between 85 and 90 as cephalic index is also a prominent feature of the Eastern races. Of these, there are 17 in this collection with the Sherpa Bhotia No. 74 of Darjeeling at 89·74, the Burmese No. 461, at 89·71, the Andamanese No. 36 at 89·24. There are, besides, three Burmese with 88 to 89 and above and two with 87 to 88. A single unidentified Oriya No. 417 shows a cephalic index too high for his race and is possibly not an Oriya (C. I. 88·2). No. 388 the Khampti of Assam and No. 78 the Mech of Darjeeling are above 88, while an Andamanese (No. 35) is 87·10. The Kuki No. 522 of Kachar shows 85·96, another Andamanese No. 33, 85·63, the nomad

Banjāra of the Upper Godavari District No. 285, 85·54, Burmese No. 464, 85·29, the Ladākhi of Darjeeling No. 75, 85·06, and the Oriya No. 129, 85·7. The Burmese No. 465, stands with 85·0 as his cephalic index. From 84-85 we have two Burmese skulls (No. 455 and 467) 84·85 and 84·76 respectively; one Malay (No. 6) 84·12, and one Limbu (No. 64) from Darjeeling 84·21. Five Burmese are in evidence with 83 to 84 as their cephalic index. (No. 425, 463, 83·33, No. 456, 83·58, No. 436, 83·33, and No. 432, 83·24), one Limbu of Darjeeling (No. 65) 83·64, one Kandh No. 556, 83·54; one Bhotia of Darjeeling No. 58,83·04, and one Andamanese No. 32, 83·73, represent the next gradation. Among those 82 to 83 as cephalic index, the Mech of Darjeeling No. 77, 82·86, Sherpa Bhotia of the same tract No. 73, 82·76, the Burmese No. 451, 82·35, the Oriya No. 411, 82·8, and the Murmi of Darjeeling 82·02 (No. 60) are also in evidence. The Burmese, again, represent very largely the group of 81 to 82. They are three (Nos. 430, 456, 466). The Nicobarian No. 2, has 81·71 as his cephalic index. In 80-81 group there are two Burmese (No. 6 and 424) and one Oriya No. 38 index 80·84.

There are 50 mesocephalic skulls in this group. From 79 to 80 we have—

No. 435 Burmese	80·
„ 19 „	80·
„ 302 Bengali of Calcutta	80·
„ 59 Bhotia	80·
„ 98 Oriya of Darjeeling	79·64
„ 79 Andamanese	79·41
„ 4 Chinese	79·67
„ 34 Andamanese	79·64
„ 434 Burmese	79·44
„ 46 Muchi of Calcutta	79·41
„ 457 Burmese	79·21

From 78 to 79 we have—

No. 423 Burmese	78·86
„ 462 „	78·86
„ 29 Andamanese	78·79
„ Oriya	78·74
„ 37 Burmese	78·74
„ 76 Ladākhi of Darjeeling	78·74
„ 61 Murmi of Darjeeling	78·41
„ 452 Burmese	78·33
„ 431 „	78·29
„ 76 (Ladākhi,) Darjeeling	78·21

Between 77 and 78 we have—

No. 67 Lepcha from Darjeeling	77·59
„ 44 Juāng from Orissa Hills	77·44
„ 3 Chinese	77·35
„ 69 Khambu of Darjeeling	77·35

No. 528	Eurasian from Calcutta	77·19
„ 413	Oriya	77·5
„ 199	„	77·1
„ 410	„	77·06

Between 76 and 77 we have—

No. 30	Kuki	76·83
„ 62	Gurung from Darjeeling	76·67
„ 300	Bengali	76-67
„ 433	Burmese	76·76
„ 16	Musalman from Nadia	76·57
„ 252	Australian	76·69
„ 56	Bhotia from Darjeeling	76·06
„ 600	Lohār from Ranchi	76·47
„ 418, 416, and 130	Oriya	76·02
, 422	Burmese	76·02
„ 10	Bhotia from Darjeeling	76·0

Between 75 and 76 there are—

No. 76	Oriya	75·74
„ 299	Bengali	75·56
„ 415	Oriya	75·5
„ 554	Singhalese	75·43
„ 31	Kol from Singbhum	75·4
„ 440	Kol from Orissa Hills	75·3
„ 601	Orāon from Ranchi	75·29
„ 459	Burmese	75·14
„ 438	Bhumia from the Orissa Hills	75·1

In the third or Dolicho-cephalic class, there are 67 skulls.

There is only one No. 419 Oriya, which is above 74. Its index is 74·3.

Between 73 and 74 there are—

No. 7	Maori	73·96
„ 32	Oriya	73·9
„ 149	„	73·9
„ 598	Teli from Ranchi	72·83
„ 63	Gurung from Darjeeling	73·81
„ 66	Lepcha from Darjeeling	73·80
„ 412	Oriya	73·3
„ 443	Juāng from the Orissa Hills	73·18
„ 521	Kuki from Kachar	73·12
„ 54	Oriya	73·0

Between 72 and 73 there are—

No. 40	Shan from Burma	72·95
„ 586	Papuan from New Guinea	72·94
„ 495	Burmese	72·68
„ 297	Bengali	72·28

No.	602 Bhuiya from Ranchi	72·22
„	304 Bengali	72·22
„	536 Australian	72·19
„	460 Burmese	72·13
„	23 Oriya	72·9
„	18 Santāl	72·7
„	538 Limbu from Assam	72·7
„	611 Munda from Ranchi	72·6
„	232 Oriya	72·3
„	442 Kol from the Orissa Hills	72·2
„	33 Oriya	72·2
„	17 Gāro	72·04

From 71 to 72 there are—

No.	296 Bengali	71·98
„	55 Bhotia from Darjeeling	71·20
„	444 Kol from the Orissa Hills	71·35
„	558 Dhobi from Birbhum	71·9
„	612 Munda from Ranchi	71·7
„	20 Oriya	71·7
„	409 „	71·6
„	606 Munda from Ranchi	71·6
„	284 Koya or Koyadore from Upper Godavari District	71·3

From 70 to 71 there are—

No.	608 Orāon	70·97
„	360 Gāro from the Garo Hills	70·29
„	45 Dhobi from Calcutta	70·17
„	26 Munda	70·9
„	24 Oriya	70·3
„	2 „	70·2

From 69 to 70 there are—

No.	14 Teli from Malda	69·19
„	301 Bengali	69·11
„	599 Bhuiya from Ranchi	69·10
„	28 Munda	69·9
„	441 Bhumia from the Orissa Hills	69·8

From 68 to 69 there are—

No.	295 Bengali	68·95
„	44 Kalu from Calcutta	68·85
„	404 Korwa from Sirjuga	68·82
„	68 Lepcha from Darjeeling	68·62
„	303 Bengali	68·31
„	610 Orāon from Ranchi	68·31

From 67 to 68 we have —

No. 607 Munda Ranchi	67·88
„ 405 Kisān from Chota Nagpur	67·78
„ 305 Bengali	67·57
„ 585 Papuan from New Guinea	67·37

THE GNATHIC INDEX.

This index is the comparison of the basi-alveolar diameter with the basi-nasal length. It ranks high as a racial feature. In the skeleton of the face the most striking differences are met with in the size of the jaws and the extent to which they project forwards. The human skull, in comparison with that of the lower animals, is especially distinguished by the great expansion of its cranial portion and the relative small development of the face, the latter is extended vertically instead of horizontally and thus brought down under the fore part of the cranium. A marked prominence of the jaws constitutes, therefore, an approach to the animal type of skull, and is to be regarded as a character of inferiority particularly when it is accompanied, as is often the case, by a low and receding forehead.* *The degree of projection of the jaws* beyond the cranium is most conveniently expressed by the *gnathic* or *alveolar* index of Flower, which is obtained by comparison of the basi-alveolar length, with the basi-nasal length (Quain's *Anatomy* page 85, edition 1899).

Skulls with gnathic index below 98 are *orthognathous.* 98 to 103 *Mesognathous* and above 103 *Prognathous.*

Among the 160 skulls in which the gnathic index has been ascertained 106 are Orthognathous, 39 Mesognathous, and only 15 Prognathous. Of the 106 Orthognathous skulls 13 reach 97 to 98. Of these, three are Oriyas, 2 Burmese, and one of Bengali, Bhuiya, Bhotia, Gāro, Kol, Khambu, Kuki, and Muchi. Between 96 and 97 come 4 Oriyas, 3 Burmese, 2 Andamanese, 2 Mundas, 2 Murmis, and one each of Kisān, Bengali, Juāng, Australian, Koya, Mech, Santāl, and Sherpa Bhotia. From 95 to 96 there are 6 Burmese, 4 Oriyas, 2 each of Lepchas, and Orāons, and one each of Bengali, Bhotia, Bhumia, Kalu, and Teli. From 94 to 95 there are 4 Burmese, 2 Oriyas, and one each of Banjāra, Bengali, Dhobi, Gurung, Korwā, Munda, Sherpa Bhotia and Shān. From 93 to 94 there are 3 Burmese, 2 Bengalis, one Oriya, one Musalman, and one Limbu. From 92 to 93 there are 2 Burmese, and one each of Juāng, Kaibartta, Lohār, Munda, and Oriya. From 91 to 92 there are 2 Bengalis, one Khamti, one Kuki, and one Oriya. From 90 to 91 there are two Burmese, one Bengali, one Chinese, one Dhobi, one Gurung, one Ladākhi, one Kol, and one Kuki. From 89 to 90 there were two Oriyas, and one Khamba. From

* Sir William Turner in "Report of the Scientific Results of the voyage of H. M. S. Challenger," Vol. X, p. 128.

89 to 90 there are two Oriyas. From 87 to 88 there is one man from Burma and one Bhotia from Darjeeling and the Sunnwār of Darjeeling stands at 86·32, the lowest gnathic index recorded. Of the 39 mesognathous jaws there are only four between 102 and 103. They belong to a Bengali, a Burmese, a Nicobarian, and an Oriya. From 101 to 102 there are four, a Burmese, a Kol, a Malay, and an Oriya. Of those between 100 and 101 there are four Burmese, four Oriyas, three Andamanese, and one each of a Bengali, a Bhumia, a Lepcha, a Munda, an Australian, a Papuan of New Guinea. Of the three 99 to 100, grade, one is a Burmese, one a Kol, and one an Oriya. Of the 98-99 class four are Burmese, two Bhotias, and one each of the Andaman, Bengali, Bhuiya, Munda, and Oriya. Of the the 15 prognathous skulls the Limbu has been omitted as an extraordinary type. It is curious that of the pure races the Gāro yields 107·14 as his gnathic index along with the Eurasian. Two Burmese stand between 105 and 106, a Burmese, a Chinese, a Ladākhi of Darjeeling, and the Papuan of New Guinea recorded 104 to 105 and to 103 104 are three Burmese, one Oriya, and one Singhalese. The highest gnathic index therefore is claimed by the Gāro of Darjeeling.

FACIAL INDEX.

It is the relation of the naso-mental length to the bizygomatic diameter. The former is the distance between the root of the nose and the lower end of the chin and the latter is the distance between the highest points of the zygomatic arch on either side. No special classification of this index has yet been attempted and no generalization drawn. No. 409 an Oriya seems to have the longest face as his index the highest recorded in this group, *viz.* 113·27. Next to him stands a Bengali No. 302, with 100-86 as facial index.

Between 91 and 100 as facial index there are 12 Oriyas, 8 Bengalis undefined, 4 Burmese, and one each of Bhuiya, Eurasian, Kaibartta, Lepcha, Musalman, Maori, Orâon, Teli, and Santāl. These may be said to have oval faces. Between 81 and 90 there are 9 Oriyas, 9 Burmese, 5 Bhotias, 5 Mundas, 3 Bengalis, 3 Limbus, 2 Orāons, Gurungs, 2 Lepchas, and one each of the Andamanese, Chinese, Dhobi, Gāro, Khamti, Kisān, Koya, Korwa, Khambu, Kalu, Ladākhi, Lohār, Mech, Muchi, Murmi, Sherpa Bhotia, Shān, Singalese, and Sunnwār. These may be taken to possess broad faces. The presence of the Chinaman, and the large proportion Oriyas and Burmese, Bhotias and Mundas, all Mongoloids, give an idea of the shape of the face. Omitting the old toothless Oriyas from the next group of 80 and less than 80 as their facial index and the Teli of Ranchi also very old, we find that the Gāro No. 360 heads the list of the broadest face with 75-76 as his index. This is right enough. The Mech (No. 78) of Darjeeling is next with 78·95 as his index. The Sherpa Bhotia (No. 74) of the same tract comes third with 78·13

then the Bhuiya, the Murmi, and the Ladākhi, The Mongolian flat face nearly approaching in height from the root of the nose to the chin, its own breadth between the zygomatic arches is thus evident in the tracts known by that name (Mongoloid) in Sir Herbert Risley's Ethnographic map of India.

NASAL INDEX.

It is the relation of the maximum breadth of the anterior orifice of the nose to its maximum length, taken from the nasal spine to the Naso-frontal suture. This character in a certain point of view, is included in the category of those establishing a transition from man to ape, but more still among those the relation of which has not as yet been explained. M. Broca has discovered that the nasal index is one of the best for the purpose of distinguishing the various races of mankind. He does not arrange them in a regular scale conformably to the exalted idea that we ourselves belong to those races.

The three divisions of the nasal index are—

Platyrhine	53 to 58
Messorhine	48 „ 52
Leptorhine	42 „ 47

That a Kaibartta of Midnapur should top the list of the Leptorhines or finest noses may be a freak of nature, but we have to give the result as it stands:—

No. 15	Kaibartta	41·67
„ 602	Bhuiya	42·
„ 453	Burmese	43·14
„ 538	Limbu	43·33
„ 29	Andamanese	44·44
„ 459	Burmese	44·44
„ 454	„	44·64
„ 417	Oriya	44·2
„ 69	Khambu	45·45
„ 37	Burmese	45·45
„ 442	Kol	45·8
„ 179	Oriya	45·8
„ 440	Kol	46·31
„ 62	Gurung	46·15
„ 65	Limbu	46·5
„ 425	Burmese	46·30
„ 98	Oriya	46·51
„ 16	Musalman	47·06
„ 38	Burmese	47·06
„ 2	Oriya	47·06
„ 3	Chinese	47·17
„ 73	Sherpa Bhotia	47·37
„ 600	Lohār	47·8
„ 601	Orāon	47·8

We have thus 27 Leptorhine noses among 164 measured. Of the Mesorhines here are 67.

No.	10 Bhotia	48·
„	72 Sunnwār	48·
„	76 Oriya	48·
„	528 Eurasian	48·08
„	58 Bhotia	48·15
„	130 Oriya	48·2
„	388 Khamti	48·24
„	44 Kalu	48·89
„	603 Lohār	48·9
„	232 Oriya	48·9
„	28 Andamanese	48·94
„	23 Oriya	48·94
„	32 „	49·
„	63 Gurung	49·02
„	460 Burmese	49·06

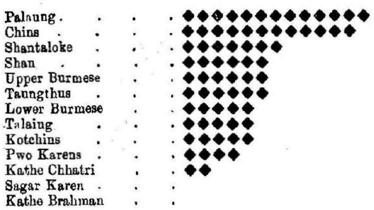
There are 31 skulls with 50 as their nasal index; 3 of them are Andamanese, 6 Bengalis, 1 Bhuiya, 2 Bhotias, 4 Burmese, 1 Dhobi, 2 Kukis, 1 Ladākhi, 1 Lepcha, 1 Murmi, 7 Oriyas, 1 Shan, and one Teli of Malda. The large number of Bengalis and Oriyas may be noted. Between 50 and 51 there is one Oriya, 1 Bhotia, and 2 Burmese. Between 51 and 52 there is one Andamanese, one Burmese, two Oriyas, one Munda, and one member of Malay tribe. Among those with 52 to 53 as their nasal index there are 5 Burmese, 1 Bengali, 1 Bhumia, 1 Murmi, 1 Kol, and 1 Santāl. Those between 52 and 53 are presumably Mesorhines. Among them there are 2 Bengalis, 2 Oriyas, and one each of Ladākhi, Muchi, Munda, Nicobarian, Orāon, and Singhalese. Among the Platyrhine or flat-nosed people ranging from 53 to 58 we have 14 Burmese, 8 Oriyas, 3 Bengalis, 3 Mundas, 2 each of Gāro, Juāng, Lepcha, and Orāon, and one each of Andamanese, Banjāra, Bhotia, Papuan, Dhobi, Limbu, Kisān, Khamba, Korwa, Koya, Maori, Mech, Muchi, Australian, Sherpa Bhotia, and Teli.

Considering the fact that many of these castes are Bengalis, the large number of the Burmese, Bengalis, and Oriyas may be noted among flat-nosed people. The high caste element of Bengal has of course to be omitted, as they are not represented in the Museum collection of skulls. Finally it may be mentioned that the Indian Museum collection of skulls contains specimens exceeding the extreme flatness of nose anticipated by Topinard in his Anthropology (p. 257, Chapter II). 53 to 58 is the limit he puts down for the Platyrhines, while the following our specimens in collection are flatter still in their noses:—

No.	467 Burmese	59·18
„	456 „	59·18
„	586 Papuan	60·87
„	252 Australian	60·98

No. 468	Burmese	60·
„ 462	„	60·
„ 435	„	61·70
„ 521	Kuki of Cachar	63·64
„ 556	Kol	67·57
„ 461	Burmese again	70·73

The Burman therefore has the flattest nose; and the Kol is equally low! In the living face, the outer fleshy appendages of the nose (nostrils) get habitually inflated in these people and they present an exaggerated aspect of the broad or flat nose, so much so, that the *breadth* actually exceeds the height. The following diagram is prepared from the Ethnographic Survey report on the Anthropometric D... Burma showing the percentage of people in whom the breadth of the nose exceeds its own height. This peculiarity diminishes near the coast-line, where free intercourse with foreigners exists. The Kathe Brahmans have no one with his nose broader than its own height, because they are foreign Hindus and follow endogamous marriage laws, while in Kathe Chhatris though originally outsiders, are allowed to take local wives and the result is a proportionate loss of the height of the nose. The Karens have also migrated from Thibet through a great sandy desert between China and that country described by Fa Hian. Mr. D. M. Smeaton, M.A., I.C.S. in his book "The Loyal Karens of Burma" says (p. 66). "It appears certain that they are not the aboriginal inhabitants of Burma"; he further adds (p. 76) that "the features of those of pure blood are Caucasian in type."



Recently much stress has been laid on the nasal index as the indicator of higher evolution of man, and in many cases the arrangement of castes according to this index corresponds with its social position. An investigation of the nasal indices carefully classified and scheduled will perhaps lead to some interesting conclusions when compared with Social Statistics, an appendix of the Imperial Census Report for 1901.

THE ORBITAL INDEX.

The Orbital Index is the relation of the vertical diameter of the base of the orbit to its horizontal diameter; the latter going from the dactyon to the opposite point of the great axis of this base, the former starting from the spot where the malo-maxillary suture meets the inferior orbital edge, and cutting perpendicularly the horizontal diameter. The two diameters are perfectly equal at birth, the vertical then becomes gradually shorter; but the true relation is

not established until after puberty, the woman always retaining, however, a less short vertical diameter, and in this, as in many other particulars, resembling the infant.

M. Broca classified the orbital index into three groups:

(I) Megasemes from 89 and above.

(II) Mesosemes from 83 to 88.

(III) Microsemes 83 and under.

The Megasemes connects all the yellow races, or those derived from the yellow races, except the Esquimaux, who by this as well as by the nasal index, and by so many other points, are separated from them completely in spite of certain evident features of resemblance.

Of the sockets measured 57 are megasemes. Those exceeding 100 in the orbital index are 12, but of these ultra-monogloid eyes 4 are Burmese, with 105. 71 index recorded; 2 are Khambus, and one each of Shān, Lepcha, Bhotia, Ladākhī, Malay, and Sherpa Bhotia—all Mongoloids in Sir Herbert Risley's map.

Among the rest, the largest number is taken up by the Burmese, fifteen in number; there are three Bengalis, ten Oriyas, two Bhotias, two Kukis, and one each of Banjāra, Bhumia, Gurung, Juāng, Ladākhi, Lepcha, Limbu, Mech, Munda, and Murmi. There are 57 Mesosemes ranging from 89 to 83, consisting of—

17 Burmese	3 Bhotias
11 Oriya	2 Oriyas
5 Bengalis	2 Chinese

one each of Dhobi, Gāro, Kol, Kalu, Kisān, Khampti, Lohār, Limbu, Munda, Murmi, Maori, Oriya, Santāl, Singhalese, Sunnwār, and Sherpa Bhotia. There are 52 Microsemes with an index below 83. Of these there are

12 Oriyas	2 Kols
5 Bengalis	2 Papuans
5 Burmese	2 Bhumias
4 Mundas	2 Australians

one each of Dhobia, Eurasian, Gāro, Gurung, Juāng, Kuki, Kandh, Kol, Korwā, Koya, Kaibartta, Lepcha, Mech, Muchi, Musalman, Nicobarian, and Teli. The lowest orbital index before 75 showing high development, is recorded in the case of the Korwā 71·8, and Munda 74·4.

PALATO-MAXILLARY INDEX.

As considerable difference exists in the relative length and breadth of the palato-maxillaries in different individuals, it is thought advisable to have descriptive

terms to express the different value of the palato-maxillary index. It is the proportion of the breadth of the palate to its length. There are three degrees:

Dolichuranic or Longi-palatal index below 110.

Mesuranic or Mediopalatal index between 110 and 115.

Brachy-uranic or Brenipalatal index above 115.

Out of the 149 skulls in which this index could be recorded, 16 are dolichuranic or longi-palated. The Burmese No. 435 comes up to 100 showing that the breadth and length of his palate are equal. The longest palate is, however, possessed by the Australian, No. 252, and stands at 75.61. The Andamanese No. 36 comes next at 77. 50, and, rightly enough, this tribe is considered very primitive still. There are 7 Oriyas in this group, 2 Burmese, and one each of a Limbu, an Andamanese, a Malay, and a Singhalese, all lower types. The presence of the Oriyas, most of whom are possibly low class coolies in Calcutta, may be specially noted in this long-palated group. There are 22 medio-palatal skulls, ranging from 110 to 115 in palato-maxillary index. Of these, two are Papuans, 9 Oriyas, 2 Bhumias, and one each of the followng: Bengali, Bhumia, Gāro, Kisān*, Koya, Orāon, Santāl, and Teli.

Majority of the skulls in the Indian Museum are brevi-palatal or Brachy-uranic, being 11 out 149. Out of these, 27 are Burmese, 14 Oriyas, 11 Bengalis, 6 Bhotias, 5 Andamanese, 4 Mundas, 3 Lepchas, 3 Kols, 3 Kukis, 2 each of Murmi, Limbu, Ladākhi, Gurung, Chinese, Mech, Juāng, and Sherpa Bhotia and one each, of Banjāra, Bhumia, Dhobi, Eurasian, Gāro, Kaibartta, Khamti, Khandh, Kol, Khambu, Korwa, Kalu, Lohār, Muchi, Australian, Nicobarian, Orāon, Shān, Sunnwār, and Teli. The Australian, No. 7, claims the broadest jaw with 161·90 as the index. The Bhotia, No. 58, reaches 156.09 with two others at 147·72 and 145.65. The Burmese, No. 425, stands at 154.34 and the Khambu numbered 70 at 150. There are 3 Burmese at 141 to 142. All these are Mongoloid races with broad, flat faces.

B. A. GUPTE,

Assistant Director of Ethnography, for India.

CALCUTTA:

1st May 1908.

Statement showing highest territorial record of broad heads.

Locality.	Caste or Tribe.	Cephalic Index.
Darjeeling	Khambu	87·95
Darjeeling	Sherpa Bhotia	86·25
Darjeeling	Mech	85·66
Assam	Khâmti	84·85
Malay	Malay	82·12
Nicobar Islands	Nicobarian	81·11
Bengal	Kaibartta	80·47
Calcutta	Muchi	79·41
Cachar	Kuki	78·69
Orissa	Kol	78·61
Ranchi	Lohār	76·47
Ceylon	Singhalese	75·43
Burma	Shān	72·83
Mymensingh	Gāro	71·74
Manbhum	Santāl	71·54
Upper Godavari	Koya or Koyadore	70·90
Malda, Bengal	Teli	68·85
Sirjuga	Korwa	68·18
Birbhum	Dhobi	67·42
Chutia Nagpur	Kisān (Khāria)	...

Measurements of Crania of Khambus of Assam (A fighting tribe tolerating sexual license before marriage.).

Province or State and District.	Darjeeling.	Darjeeling.
Collection mark	$\frac{69}{13}$	$\frac{70}{16}$
Age	...	...
Sex	♂	...
Cubic capacity	1450	1050
Glabello-occipital length	18·1	13·8
Basi-bregmatic height	12·5	11·4
Vertical Index	*69·06*	*82·61*
Minimum frontal diameter	8·9	8·0
Stephanic diameter	8·4	9·6
Asterionic diameter	10·0	9·6
Greatest parieto-squamous breadth.	14·0	13·6
Cephalic Index	*77·35*	*98·55*
Horizontal circumference	51·5	44·5
Frontal longitudinal arc	2·0	10·8
Parietal longitudinal arc	12·8	10·3
Occipital longitudinal arc	11·8	10·4
Total longitudinal arc	30·6	32·5
Vertical transverse arc	30·6	3·00
Length of foramen magnum	3·8	3·0
Basi-nasal length	9·3	7·3
Basi-alveolar length	9·1	6·5
Gnathic Index	*97·85*	*89·04*
Interzygomatic breadth	13·7	10·0
Intermalar breadth	11·5	8·4
Nasio-mental length	×	8·7
Nasio-alveolar length	6·6	5·5
Complete Facial Index	×	*87·0*
Nasal height	5·5	3·7
Nasal width	2·5	2·0
Nasal Index	*45·45*	*54·05*
Orbital width	3·6	3·1
Orbital height	3·8	3·2
Orbital Index	*105·56*	*103·23*
Palato-maxillary length	4·8	3·
Palato-maxillary breadth	×	4·8
Palato-maxillary Index	×	×
Symphysial height of the lower jaw.	3·4	2·4
Coronoid height of the lower jaw	5·8	4·2
Condyolid height of the lower jaw.	5·8	4·2
Gonio-symphysial length	8·6	6·5
Inter-gonial width, outside	10·2	7·6
Breadth of ascending ramus	3·1	2·6
Special features	...	child

Measurements of Crania of Sherpa Bhotia [yakherds.]

Province or State and District.	Darjeeling.	Darjeeling.
Collection mark	73 side 19 frontal	74 side 20 frontal
Age	...	...
Sex	♂	♀
Cubic capacity	*1380*	*1180*
Glabello-occipital length	17·4	15·6
Basi-bregmatic height	13·0	12·1
Vertical Index	*74·71*	*77·56*
Minimum frontal diameter	9·4	8·4
Stephanic diameter	10·6	10·4
Asterionic diameter	11·2	10·8
Greatest parieto-squamous breadth.	14·4	14·0
Cephalic Index	*82·76*	*89·74*
Horizontal circumference	51·5	48·4
Frontal longitudinal arc	12·0	11·0
Parietal longitudinal arc	12·0	12·2
Occipital longitudinal arc	11·5	10·1
Total longitudinal arc	35·5	33·3
Vertical transverse arc	31·8	29·3
Length of foramen magnum	3·6	4·0
Basi-nasal length	10·0	9·5
Basi-alveolar length	9·4	9·2
Gnathic Index	*94·0*	*96·84*
Interzygomatic breadth	13·9	12·8
Intermalar breadth	11·6	11·0
Nasio-mental length	12·1	10·0
Nasio-alveolar length	7·5	6·0
Complete Facial Index	*37·5*	*78·13*
Nasal height	5·7	4·7
Nasal width	2·7	2·5
Nasal Index	*47·37*	*53·19*
Orbital width	4·0	4·0
Orbital height	4·1	3·5
Orbital Index	*102·5*	*87·50*
Palato-maxillary length	5·0	4·7
Palato-maxillary breadth	6·6	6·1
Palato-maxillary Index	*132*	*129·79*
Symphysial height of the lower jaw.	3·1	2·4
Coronoid height of the lower jaw	6·0	4·5
Condyloid height of the lower jaw.	6·0	5·7
Gonio-symphysial length	9·8	9·0
Inter-gonial width, outside	1·0	0·2
Breadth of ascending ramus	3·5	2·7
Special features	...	...

Measurements of Crania of Meches [*Nomads, now settled as cultivators.*]

Province or State and District.	Darjeeling, Terai.	Darjeeling, Terai.
Collection mark	77 side 24 front	78 side 23 front
Age	...	...
Sex	♂	♀
Cubic capacity	*1460*	*1190*
Glabello-occipital length	17·5	15·6
Basi-bregmatic height	13·3	11·5
Vertical Index	*76*	*73·72*
Minimum frontal diameter	8·5	9·2
Stephanic diameter	11·0	11·2
Asterionic diameter	11·0	10·0
Greatest parieto-squamous breadth.	14·5	13·8
Cephalic Index	*82·86*	*88·46*
Horizontal circumference	51·0	49·0
Frontal longitudinal arc	12·0	11·2
Parietal longitudinal arc	13·0	12·0
Occipital longitudinal arc	12·0	9·5
Total longitudinal arc	37·0	30·7
Vertical transverse arc	30·5	30·0
Length of foramen magnum	3·5	×
Basi-nasal length	9·3	×
Basi-alveolar length	9.0	×
Gnathic Index	*96·77*	×
Interzygomatic breadth	13·4	11·4
Intermalar breadth	11·4	9·8
Nasio-mental length	11·5	9·0
Nasio-alveolar length	6·6	5·7
Complete Facial Index	*85·82*	*78·95*
Nasal height	5·1	4·1
Nasal width	2·7	2·4
Nasal Index	*52·94*	*58·54*
Orbital width	4·0	3·3
Orbital height	3·1	3·1
Orbital Index	*77·50*	*93·94*
Palato-maxillary length	4·7	4·0
Palato-maxillary breadth	6·6	5·4
Palato-maxillary Index	*140·43*	*135·0*
Symphysial height of the lower jaw.	3·5	2·4
Coronoid height of the lower jaw	6·2	4·6
Condyloid height of the lower jaw	6·8	4·6
Gonio-symphysial length	8·8	7·1
Inter-gonial width, outside	10·6	8·2
Breadth of ascending ramus	3·1	3·2
Special features	...	young.

Measurements of Crania of Banjārās [Caravan carriers, now settled as cultivators.]

Province or State and District.	Upper Godavari District.
Collection mark	285
Age	40
Sex	Male
Cubic capacity	*1290*
Glabello-occipital length	16·6
Basi-bregmatic height	13·1
Vertical Index	*78·92*
Minimum frontal diameter	9·3
Stephanic diameter	11·2
Asterionic diameter	10·6
Greatest parieto-squamous breadth.	14·2
Cephalic Index	*85·54*
Horizontal circumference	49·5
Frontal longitudinal arc	12·1
Parietal longitudinal arc	12·0
Occipital longitudinal arc	10·3
Total longitudinal arc	34·4
Vertical transverse arc	30·5
Length of foramen magnum	3·7
Basi-nasal length	9·8
Basi-alveolar length	9·3
Gnathic Index	*94·90*
Interzygomatic breadth	13·1
Intermalar breadth	12·0
Nasio-mental length	×
Nasio-alveolar length	6·3
Complete Facial Index	×
Nasal height	4·9
Nasal width	2·6
Nasal Index	*53·6*
Orbital width	3·8
Orbital height	3·5
Orbital Index	*92·11*
Palato-maxillary length	5·0
Palato-maxillary breadth	6·1
Palato-maxillary Index	*122*
Symphysial height of the lower jaw.	2·7
Coronoid height of the lower jaw	6·0
Condyloid height of the lower jaw.	6·3
Gonio-symphysial length	8·2
Inter-gonial width, outside	8·8
Breadth of ascending ramus	2·8
Special features	...

Measurements of Cranium of a Khāmti [A tribe of Shans mixed with the Assamese.]

Province or State and District.	Hills between Assam and Burma.
Collection mark	388
Age	49
Sex	Male
Cubic capacity . . .	*1310*
Glabello-occipital length . .	16·5
Basi-bregmatic height . .	13·9
Vertical Index . . .	*84·24*
Minimum frontal diameter .	9·0
Stephanic diameter . .	10·5
Asterionic diameter . . .	10·1
Greatest parieto-squamous breadth.	14·6
Cephalic Index . . .	*88·48*
Horizontal circumference . .	50·7
Frontal longitudinal arc . .	12·0
Parietal longitudinal arc . .	13·0
Occipital longitudinal arc . .	10·0
Total longitudinal arc . .	35·0
Vertical transverse arc . .	32·0
Length of foramen magnum .	3·0
Basi-nasal length . . .	9·5
Basi-alveolar length . .	8·7
Gnathic Index . . .	*91·58*
Interzygomatic breadth . .	14·0
Intermalar breadth . . .	12·0
Nasio-mental length . .	12·0
Nasio-alveolar length . .	7·0
Complete Facial Index .	*85·71*
Nasal height	5·6
Nasal width	2·7
Nasal Index	*48·21*
Orbital width	4·0
Orbital height . . .	3·5
Orbital Index	*87·50*
Palato-maxillary length . .	4·7
Palato-maxillary breadth . .	6·4
Palato-maxillary Index . .	*136·17*
Symphysial height of the lower jaw.	3·4
Coronoid height of the lower jaw.	6·2
Condyloid height of the lower jaw.	6·3
Gonio-symphysial length .	8·5
Inter-gonial width, outside .	10·0
Breadth of ascending ramus .	3·6
Special features . . .	...

Measurements of Cranium of a Malay.

Province or State and District.	Malay.
Collection mark	6 side
Age	—
Sex	—
Cubic capacity	*1360*
Glabello-occipital length	17·0
Basi-bregmatic height	13·0
Vertical Index	*76·47*
Minimum frontal diameter	9·4
Stephanic diameter	10·3
Asterionic diameter	10·7
Greatest parieto-squamous breadth.	14·3
Cephalic Index	*84·12*
Horizontal circumference	49·8
Frontal longitudinal arc	12·5
Parietal longitudinal arc	11·0
Occipital longitudinal arc	12·2
Total longitudinal arc	35·7
Vertical transverse arc	31·5
Length of foramen magnum	3·4
Basi-nasal length	9·7
Basi-alveolar length	9·8
Gnathic Index	*101·03*
Interzygomatic breadth	13·5
Intermalar breadth	12·0
Nasio-mental length	+
Nasio-alveolar length	7 1
Complete Facial Index	+
Nasal height	5·8
Nasal width	3·0
Nasal Index	*51·72*
Orbital width	4·0
Orbital height	4·0
Orbital Index	*100 0*
Palato-maxillary length	6·1
Palato-maxillary breadth	6·94
Palato-maxillary Index	*104·2*
Symphysial height of the lower jaw.	—
Coronoid height of the lower jaw.	—
Candyloid height of the lower jaw.	—
Gonio-symphysial length	—
Inter-gonial width, outside	—
Breadth of ascending ramus	—
Special features	...

Measurements of Cranium of a Nicobarese.

Province or State and District.	Nicobar Island.
Collection mark	2 side 17 frontal
Age	...
Sex	Female
Cubic capacity	*1345*
Glabello-occipital length	16·4
Basi-bregmatic height	13·8
Vertical Index	*4·5*
Minimum frontal diameter	9·5
Stephanic diameter	11·2
Asterionic diameter	10·0
Greatest parieto-squamo s breadth.	13·4
Cephalic Index	*81·71*
Horizontal circumference	49·4
Frontal longitudinal arc	13·0
Parietal longitudinal arc	12·0
Occipital longitudinal arc	11·0
Total longitudinal arc	36·0
Vertical transverse arc	31·1
Length of foramen magnum	3·2
Basi-nasal length	9·6
Basi-alveolar length	9·8
Gnathic Index	*102·08*
Interzygomatic breadth	13·0
Intermalar breadth	11·1
Nasio-mental length	...
Nasio-alveolar length	5·8
Complete Facial Index	...
Nasal height	4·6
Nasal width	2·4
Nasal Index	*52·17*
Orbital width	4·0
Orbital height	3·0
Orbital Index	*75·0*
Palato-maxillary length	51·0
Palato-maxillary breadth	62·0
Palato-maxillary Index	*116·98*
Symphysial height of the lower jaw.	2·2
Coronoid height of the lower jaw	5·6
Condyloid height of the lower jaw.	5·7
Gonio-symphysial length	8·7
Inter-gonial width, outside	...
Breadth of ascending ramus	33·0
Special features	...

Measurements of Crania of Ladākhis [Polyandrous Kashmiris.]

Province or State and District.	Darjeeling.	Darjeeling
Collection mark	$\frac{75}{21}$	$\frac{78}{22}$
Age	...	...
Sex	Male	Female
Cubic capacity	*1490*	*1360*
Glabello-occipital length	17·4	17·6
Basi-bregmatic height	12·8	12·8
Vertical Index	*73·56*	*72·73*
Minimum frontal diameter	9·0	8·8
Stephanic diameter	11·0	9·6
Asterionic diameter	10·8	10·5
Greatest parieto-squamous breadth.	14·8	13·8
Cephalic Index	*85·06*	*78·41*
Horizontal circumference	52·0	51·0
Frontal longitudinal arc	13·3	13·2
Parietal longitudinal arc	12·8	11·5
Occipital longitudinal arc	10·6	12·3
Total longitudinal arc	36·7	37·0
Vertical transverse arc	32·0	30·2
Length of foramen magnum	3·5	3·5
Basi-nasal length	9·2	9·3
Basi-alveolar length	9·5	8·4
Gnathic Index	*103·26*	*90·32*
Interzygomatic breadth	13·5	12·6
Intermalar breadth	11·4	11·0
Nasio-mental length	11·7	10·1
Nasio-alveolar length	7·0	6·5
Complete Facial Index	*86·67*	*79·37*
Nasal height	5·1	5·0
Nasal width	2·7	2·5
Nasal Index	*52·94*	*50·0*
Orbital width	3·8	3·5
Orbital height	3·6	3·5
Orbital Index	*94·74*	*100·0*
Palato-maxillary length	5·0	4·1
Palato-maxillary breadth	6·8	6·0
Palato-maxillary Index	*136·0*	*146·36*
Symphysial height of the lower jaw.	2·9	2·6
Coronoid height of the lower jaw	6·0	5·8
Condyloid height of the lower jaw.	6·0	5·9
Gonio-symphysial length	9·1	8·3
Inter-gonial width, outside	10·1	9·6
Breadth of ascending ramus	3·2	3·1
Special features	...	...

Measurements of Cranium of a Kaibartta (A large fishing and cultivating caste of Bengal.)

Province or State and District	Midnapur, Bengal.
Collection mark	2 front
Age	45
Sex	Male
Cubic capacity	*13·00*
Glabello-occipital length	16·9
Basi-bregmatic height	13·3
Vertical Index	*78·70*
Minimum frontal diameter	9·7
Stephanic diameter	11·5
Asterionic diameter	10·0
Greatest parieto-squamous breadth.	13·6
Cephalic Index	*80·47*
Horizontal circumference	48·8
Frontal longitudinal arc	12·5
Parietal longitudinal arc	12·5
Occipital longitudinal arc	10·2
Total logitudinal arc	35·2
Vertical transverse arc	3·1
Length of foramen magnum	3·7
Basi-nasal length	9·9
Basi-alveolar length	9·2
Gnathic Index	*92·93*
Interzygomatic breadth	12·5
Intermalar breadth	11·3
Nasio-mental length	11·4
Nasio-alveolar length	6·1
Complete Facial Index	*92·2*
Nasal height	4·8
Nasal width	2·0
Nasal Index	*41·67*
Orbital width	4·3
Orbital height	3·3
Orbital Index	*73·74*
Palato-maxillary length	4·5
Palato-maxillary breadth	5·9
Palato-maxillary Index	*131·11*
Symphysial height of the lower jaw.	3·0
Coronoid height of the lower jaw.	5·5
Condyloid height of the lower jaw.	6·0
Gonio-symphysial length	9·0
Inter-gonial width, outside	9·5
Breadth of ascending ramus	3·C
Special features	...

Measurements of Crania of Limbus [A hill tribe found between Nepal and Sikkim.]

Province or State and District.	Darjeeling.	Darjeeling.	Assam.
Collection mark	64 side 10 front	65 side 11 front	8 side 538 frontal
Age	—	—	—
Sex	Male	Female	Male
Cubic capacity	*1300*	*1200*	*1410*
Glabello-occipital length	17·1	16·5	18·8
Basi-bregmatic height	12·0	12·0	13·0
Vertical Index	*70·18*	*72·73*	*69·15*
Minimum frontal diameter	9·8	8·8	9·5
Stephanic diameter	10·8	10·8	8·2
Asterionic diameter	10·9	10·4	11·0
Greatest parieto-squamous breadth.	14·4	13·8	13·7
Cephalic Index	*84·21*	*83·64*	*72·7*
Horizontal circumference	51·0	49·0	52·7
Frontal longitudinal arc	12·5	11·5	12·0
Parietal longitudinal arc	11·4	12·2	13·5
Occipital longitudinal arc	11·5	10·5	11·5
Total longitudinal arc	34·9	34·2	37·0
Vertical transverse arc	31·6	30·4	32·0
Length of foramen magnum	3·7	3·6	3·8
Basi-nasal length	9·1	8·8	10·5
Basi-alveolar length	9·1	8·2	10·0
Gnathic Index	*10·0*	*93·18*	*95·4*
Interzygomatic breadth	14·0	12·5	14·2
Intermalar breadth	12·3	11·1	12·0
Nasio-mental length	11·8	11·2	12·3
Nasio-alveolar length	6·6	6·8	7·7
Complete Facial Index	*84·29*	*89·6*	*86·62*
Nasal height	5·0	5·2	6·0
Nasal width	2·7	2·4	2·6
Nasal Index	*54·80*	*46·15*	*43·33*
Orbital width	4·0	4·0	4·0
Orbital height	3·5	3·8	3·5
Orbital Index	*87·5*	*95·0*	*87·5*
Palato-maxillary length	5·0	4·2	6·0
Palato-maxillary breadth	6·4	6·0	6·2
Palato-maxillary Index	*128·0*	*142·85*	*103·33*
Symphysial height of the lower jaw.	3·5	2·8	3·2
Coronoid height of the lower jaw.	6·3	5·4	6·9
Condyloid height of the lower jaw	6·2	5·4	6·5
Gonio-symphysial length	9·2	8·7	10·2
Inter-gonial width, outside	9·5	9·3	10·8
Breadth of ascending ramus	3·5	3·4	4·2
Special features	*See A*	*See B infra*	

A. There is a frontal sinus along the entire length of the bones, and there are wormian bones in the occipito-parietal sinus. An extraordinarily broad *inter-orbital* space 3·4.

. There is a trace of the frontal suture and a wormian bone at the right occipito-mastoidal joint.

Measurements of Crania of Murmis (Nepalese cultivators.)

Province or State and District	Darjeeling.	Darjeeling.
Collection mark	Side 60	61 side
Age	...	..
Sex	Male	Male
Cubic capacity	*1440*	*1510*
Glabello-occipital length	17·8	18·0
Basi-bregmatic height	13·5	12·4
Vertical Index	*75·84*	*68·89*
Minimum frontal diameter	9·5	9·0
Stephanic diameter	10·7	11·2
Asterionic diameter	10·8	10·5
Greatest parieto-squamous breadth.	14·6	14·1
Cephalic Index	*82·02*	*78·33*
Horizontal circumference	51·5	51·6
Frontal longitudinal arc	12·3	12·7
Parietal longitudinal arc	12·5	13·0
Occipital longitudinal arc	11·3	11·5
Total longitudinal arc	36·1	37·1
Vertical transverse arc	31·1	31·0
Length of foramen magnum	4·0	3·8
Basi-nasal length	10·0	9·5
Basi-alveolar length	9·6	9·2
Gnathic Index	*96·0*	*96·84*
Interzygomatic breadth	14·1	13·1
Intermalar breadth	12·5	11·8
Nasio-mental length	12·0	10·4
Nasio-alveolar length	7·5	6·4
Complete Facial ndex	*85·11*	*79·39*
asal height	5·4	5·0
asal width	2·7	2·6
Nasal Index	*50·0*	*52·0*
Orbital width	3·7	4·0
Orbital height	3·4	3·5
Orbital Index	*94·32*	*87·5*
Palato-maxillary length	5·0	4·5
Palato-maxillary breadth	6·2	6·0
Palato-maxillary Index	*124·0*	*133·33*
Symphysial height of the lower jaw.	3·0	3·6
Coronoid height of the lower jaw	6·1	5·5
Condyloid height of the lower jaw.	7·0	5·5
Gonio-symphysial length	9·5	8·6
Inter-gonial width, outside	10·4	10·0
Breadth of ascending ramus	3·6	3·1
Special features	...	...

Measurements of Cranium of a Muchi (Cobblers.)

Province or State and District.	Calcutta.
Collection mark	46 Sid 6 Front
Age	...
Sex	...
Cubic capacity	1300
Glabello-occipital length	17·0
Basi-bregmatic height	13·2
Vertical Index	*77·65*
Minimum frontal diameter	9·5
Stephanic diameter	11·6
Asterionic diameter	11·0
Greatest parieto-squamous breadth	13·5
Cephalic Index	79·41
Horizontal circumference	50·0
Frontal longitudinal arc	12·0
Parietal longitudinal arc	13·5
Occiptal longitudinal arc	10·5
Total longitudinal arc	35·0
Vertical transverse arc	31·0
Length of foramen magnum	3·5
Basi-nasal length	9·8
Basi-alveolar length	9·6
Gnathic Index	*97·96*
Interzygomatic breadth	12·6
Intermalar breadth	11·0
Nasio-mental length	11·2
Nasio-alveolar length	6·9
Complete Facial Index	*88·89*
Nasal height	5·0
Nasal width	2·7
Nasal Index	*54·0*
Orbital width	3·6
Orbital height	3·0
Orbital Index	*83·3*
Palato-maxillary length	5·0
Palato-maxillary breadth	6·0
Palato-maxillary Index	120·0
Symphysial height of the lower jaw.	3·0
Coronoid height of the lower jaw	6·0
Condyloid height of the lower jaw	6·1
Gonio-symphysial length	8·5
Inter-gonial width, outside	9·0
Breadth of ascending ramus	3·1
Special features	A

A. There are many wormian bones the parieto-occipital suture.

Measurements of Crania of Kukis (A hill tribe.)

Province or State and District.		Cachar.	Cachar.
Collection mark	30 side 18 front	521	522
Age	..	30	...
Sex	...	Male	...
Cubic capacity	*1100*	*1520*	*1300*
Glabello-occipital length	16·4	18·6	17·1
Basi-bregmatic height	12·7	13·2	13·2
Vertical Index	*77·44*	*70·97*	*77·19*
Minimum frontal diameter	9·0	9·3	9·6
Stephanic diameter	11·1	10·4	9·3
Asterionic diameter	9·2	10·0	11·1
Greatest parieto-squamous breadth.	12·6	13·6	14·7
Cephalic Index	*76·83*	*73·12*	*85·96*
Horizontal circumference	47·5	52·5	51·0
Frontal longitudinal arc	12·8	13·7	12·2
Parietal longitudinal arc	12·5	14·5	12·1
Occipital longitudinal arc	9·5	11·0	10·8
Total longitudinal arc	34·8	39·2	35·1
Vertical transverse arc	30·0	32·0	32·5
Length of foramen magnum	3·5	3·5	3·7
Basi-nasal length	9·0	9·7	10·3
Basi-alveolar length	8·2	9·5	9·3
Gnathic Index	*91·11*	*97·94*	*90·29*
Interzygomatic breadth	...	13·3	...
Intermalar breadth	9·7	11·5	11·8
Nasio-mental length	...	...	...
Nasio-alveolar length	6·4	6·1	7·3
Complete Facial Index	...	...	...
Nasal length	4·6	4·4	5·5
Nasal width	2·3	2·8	2·8
Nasal Index	*50·0*	*63·64*	*50·91*
Orbital width	3·6	4·0	4·0
Orbital height	3·3	3·3	3·7
Orbital Index	*91·67*	*82·50*	*92·50*
Palato-maxillary length	4·0	4·7	5·2
Palato-maxillary breadth	5·5	6·0	6·1
Palato-maxillary Index	*137·5*	...	*117·31*
Symphysial height of the lower jaw.	...	...	..
Coronoid height of the lower jaw	...	...	...
Condyloid height of the lower jaw	...	...	...
Gonio-symphysial length	...	...	...
Inter-gonial width, outside	...	...	...
Breadth of ascending ramus	...	...	...
Special features	A	...	...

A. There is a wormian bone present.

Measurements of Cranium of a Kandh [A tribe found in Ganjam and Vizagapattam.]

Province or State and District.	Kandh-mal.
Collection mark	556 frontal.
Age	18
Sex	Female
Cubic capacity	*1070*
Glabello-occipital length . .	15·8
Basi-bregmatic height . .	12·3
Vertical Index	*77·85*
Minimum frontal diameter .	9·2
Stephanic diameter . . .	11·5
Asterionic diameter . . .	9·0
Greatest parieto-squamous breadth.	13·2
Cephalic Index	*83·54*
Horizontal circumference . .	46·3
Frontal longitudinal arc . .	11·0
Parietal longitudinal arc . .	12·7
Occipital longitudinal arc .	10·5
Total longitudinal arc . .	34·2
Vertical transverse arc . .	28·7
Length of foramen magnum .	2·8
Basi-nasal length . . .	8·8
Basi-alveolar length . .	8·9
Gnathic Index	*101·14*
Interzygomatic breadth . .	...
Intermalar breadth . . .	10·6
Nasio-mental length . . .	...
Nasio-alveolar length . .	...
Complete Facial Index . .	...
Nasal height	3·7
Nasal width	2·5
Nasal Index	*67·57*
Orbital width	3·5
Orbital height	2·7
Orbital Index	*77·14*
Palato-maxillary length . .	5·0
Palato-maxillary breadth . .	6·0
Palato-maxillary Index . .	*120*
Symphysial height of the lower jaw.	...
Coronoid height of the lower jaw.	...
Condyloid height of the lower jaw.	...
Gonio-symphysial length . .	...
Inter-gonial width, outside .	...
Breadth of ascending ramus .	...
Special features . . .	...

Measurements of Cranium of a Eurasian.

Province or State and District	Calcutta.
Collection mark	528
Age	28
Sex	Male
Cubic capacity	*1280*
Glabello-occipital length	17·1
Basi-bregmatic height	12·8
Vertical Index	*74·85*
Minimum frontal diameter	8·6
Stephanic diameter	9·5
Asterionic diameter	10·5
Greatest parieto-squamous breadth.	13·2
Cephalic Index	*77·19*
Horizontal circumference	48·2
Frontal longitudinal arc	12·0
Parietal longitudinal arc	12·4
Occipital longitudinal arc	11·4
Total longitudinal arc	35·8
Vertical transverse arc	30·0
Length of foramen magnum	3·5
Basi-nasal length	9·8
Basi-alveolar length	10·5
Gnathic Index	*107·14*
Interzygomatic breadth	12·2
Intermalar breadth	11·0
Nasio-mental length	12·1
Nasio-alveolar length	7·6
Complete Facial Index	*99·18*
Nasal height	5·2
Nasal width	2·5
Nasal Index	*48·08*
Orbital width	4·0
Orbital height	3·2
Orbital Index	*80·0*
Palato-maxillary length	5·1
Palato-maxillary breadth	6·3
Palato-maxillary Index	*123·53*
Symphysial height of the lower jaw.	3·5
Coronoid height of the lower jaw.	6·0
Condyloid height of the lower jaw.	6·2
Gonio-symphysial length	9·2
Inter-gonial width, outside	10·2
Breadth of ascending ramus	3·4
Special features	A

A. Receding forehead, and marked prognatism.

Measurements of Crania of Bhotias of Duars.

Province or State and District.	Darjeeling.	Darjeeling.	Darjeeling.	Darjeeling.	Darjeeling.	Darjeeling.
Collection mark	55 side	56 side	57 side	58 side	59 side	Side No. 10
Age	...	...	...	...	...	...
Sex	Male	Female	Male	Female	Female	Male
Cubic capacity	*1460*	*1390*	*1420*	*1520*	*1525*	*1330*
Glabello-occipital length	19·1	18·0	18·2	17·1	18·0	17·5
Basi-bregmatic height	13·5	13·0	13·5	13·0	13·2	12·7
Vertical Index	*70·6*	*77·22*	*74·18*	*76·02*	*73·33*	*72·57*
Minimum frontal diameter	9·2	9·2	8·9	9·0	9·3	9·0
Stephanic diameter	10·7	10·3	10·3	11·2	9·6	10·9
Asterionic diameter	11·0	10·6	10·2	10·8	10·9	10·5
Greatest parieto-squamous breadth	13·6	13·8	13·5	14·2	14·4	13·3
Cephalic Index	*71·20*	*76·6*	*74·1*	*83·04*	*80·0*	*76·0*
Horizontal circumference	53·0	52·7	52·4	50·9	52·1	49·7
Frontal longitudinal arc	15·0	12·5	13·3	13·0	13·2	12·7
Parietal longitudinal arc	14·0	13·0	13·5	12·4	13·8	13·7
Occipital longitudinal arc	12·5	11·7	11·0	11·8	11·0	10·5
Total longitudinal arc	41·5	37·2	37·5	37·2	38·0	36·9
Vertical transverse arc	33·0	32·5	31·0	31·0	32·0	29·5
Length of foramen magnum	3·6	3·5	3·6	3·7	3·8	3·7
Basi-nasal length	9·5	10·3	10·2	9·1	9·7	9·1
Basi-alveolar length	9·0	10·0	10·0	8·0	9·3	9·0
Gnathic Index	*94·74*	*97·09*	*98·04*	*87·91*	*95·88*	*98·6*
Interzygomatic breadth	13·3	13·2	13·8	13·3	13·8	12·5
Intermalar breadth	11·4	12·2	12·6	11·5	11·8	11·0
Nasio-mental length	11·0	11·4	11·8	11·7	12·4	10·2
Nasio-alveolar length	6·6	7·0	7·2	7·0	7·5	6·1
Complete Facial Index	*82·71*	*86·36*	*85·51*	*87·97*	*82·4*	*81·60*
Nasal height	4·7	5·3	5·4	5·4	5·4	5·0
Nasal width	2·7	2·7	2·7	2·6	2·7	2·4
Nasal Index	*57·45*	*50·94*	*50·0*	*48·15*	*50·0*	*48·0*
Orbital width	3·8	4·0	3·7	4·3	4·0	3·5
Orbital height	3·2	3·5	3·8	3·8	3·6	3·2
Oribtal Index	*84·2*	*87·50*	*102·70*	*88·37*	*90·0*	*91·43*
Palato-maxillary length	4·8	5·0	4·6	4·1	4·7	4·4
Palato-maxillary breadth	6·0	6·1	6·7	6·4	6·2	6·5
Palato-maxillary Index	*127·08*	*122·0*	*145·65*	*156·09*	*131·91*	*147·72*
Symphysial height of the lower jaw	2·8	3·0	3·2	3·0	3·2	2·7
Coronoid height of the lower jaw	6·6	6·1	7·3	6·5	5·5	6·2
Condyloid height of the lower jaw	6·5	6·[illegible]	7·2	6·3	5·7	6·2
Gonio-symphysial length	8·8	9·4	10·0	8·5	9·3	8·7
Inter-gonial width, outside	9·6	10	10·7	10·0	10·7	9·3
Breadth of ascending ramus	3·4	3·5	4·0	3·0	3·3	3·5
Special features	*A*			*B*		*C*

REMARKS.—*A Prominent prognatism.*
B There are wormian bones present.
C Ditto ditto.

Measurements of Crania of Juāngs (a leaf-clad forest tribe of Orissa).

Province or State and District	Orissa Hills.	Orissa Hills
Collection mark	Frontal No. 443	Frontal No. 445.
Age	...	...
Sex	...	...
Cubic capacity	*1420*	*1030*
Glabello-occipital length	17·9	16·4
Basi-bregmatic height	14·2	12·5
Vertical Index	*73·33*	*76·22*
Minimum frontal diameter	9·5	8·7
Stephanic diameter	10·9	11·0
Asterionic diameter	10·3	9·4
Greatest parieto-squamous breadth	13·1	12·7
Cephalic Index	*73·18*	*77·44*
Horizontal circumference	50·0	46·5
Frontal longitudinal arc	12·0	12·0
Parietal longitudinal arc	13·5	12·5
Occipital longitudinal arc	11·5	9·6
Total longitudinal arc	37·0	34·1
Vertical transverse arc	31·0	28·3
Length of foramen magnum	3·3	3·0
Basi-nasal length	10·6	9·3
Basi-alveolar length	10·0	8·6
Gnathic Index	*96·15*	*92·47*
Interzygomatic breadth	12·6	12·1
Intermalar breadth	11·6	10·7
Nasio-mental length	...	...
Nasio-alveolar length	...	6·0
Complete facial index	...	...
Nasal height	4·7	4·4
Nasal width	2·5	2·4
Nasal index	*53·19*	*54·55*
Orbital width	3·9	3·8
Orbital height	3·5	3·1
Orbital index	*89·74*	*80·6*
Palato-maxillary length	5·2	4·7
Palato-maxillary breadth	6·1	5·5
Palato-maxillary index	*117·31*	*117·52*
Symphysial height of the lower jaw	...	...
Coronoid height of the lower jaw	...	...
Condyloid height of the lower jaw	...	...
Gonio-symphysial length	...	...
Inter-gonial width, outside	...	...
Breadth of ascending ramus	...	...
Special features	...	...

Measurements of Cranium of a Singhalese.

Province or State and District .	Ceylon.
Collection mark	Frontal No. 554.
Age	35
Sex	Male.
Cubic capacity	*1320*
Glabello-occipital length . .	17·5
Basi-bregmatic height . .	13·8
Vertical Index	*78·86*
Minimum frontal diameter . .	9·1
Stephanic diameter . . .	10·4
Asterionic diameter	10·4
Greatest parieto-squamous breadth	13·2
Cephalic Index	*75·43*
Horizontal circumference . .	49·0
Frontal longitudinal arc . .	12·3
Parietal longitudinal arc . .	13·3
Occipital longitudinal arc . .	11·0
Total longitudinal arc . .	36·6
Vertical transverse arc . .	31·0
Length of foramen magnum .	3·5
Basi-nasal length . . .	9·7
Basi-alveolar length . . .	10·0
Gnathic Index	*103·09*
Interzygomatic breadth . .	12·5
Intermalar breadth . . .	11·0
Nasio-mental length . . .	11·2
Nasio-alveolar length . . .	6·5
Complete facial Index . .	*89·6*
Nasal height	4·6
Nasal width	2·4
Nasal Index	*52·17*
Orbital width	4·0
Orbital height	3·4
Orbital index	*85·0*
Palato maxillary length . .	5·6
Palato-maxillary breadth . .	6·1
Palato maxillary index . .	*108·93*
Symphysial height of the lower jaw	3·0
Coronoid height of the lower jaw	6·0
Condyloid height of the lower jaw	6·8
Gonio-symphysial length . .	8·5
Inter-gonial width, outside . .	8·1
Breadth of ascending ramus .	3·4
Special features . . .	...

Measurements of Cranium of a Lohār (Ironsmith).

Province or State and District	Ranchi.
Collection mark . .	600
Age	...
Sex	...
Cubic capacity	*12·40*
Glabello-occipital length . .	17·0
Basi-bregmatic height . .	13·1
Vertical Index . . .	*77·06*
Minimum frontal diameter .	9·0
Stephonic diameter . . .	10·7
Asterionic diameter . . .	10·3
Greatest parieto-squamous breadth	13·0
Cephalic Index . . .	*76·5*
Horizontal circumference . .	47·3
Frontal longitudinal arc . .	12·6
Parietal longitudinal arc . .	12·0
Occipital longitudinal arc . .	10·6
Total longitudinal arc . .	35·2
Vertical transverse arc .	28·8
Length of foramen magnum .	3·4
Basi-nasal length . . .	9·6
Basi-alveolar length . . .	8·9
Gnathic Index . . .	*92·71*
Interzygomatic breadth . .	12·3
Intermalar breadth . . .	11·2
Nasio-mental length . . .	10·6
Nasio-alveolar length .	6·0
Complete facial Index . .	*86·07*
Nasal height	4·6
Nasal width	2·2
Nasal Index	*7·08*
Orbital width	3·7
Orbital height	3·2
Orbital Index	*86·49*
Palato-maxillary length . .	4·9
Palato-maxillary breadth . .	5·8
Palato-maxillary Index . .	*11·83*
Symphysial height of the lower jaw	2·8
Coronoid height of the lower jaw	5·1
Condyloid height of the lower jaw	4·8
Gonio-symphysial length . .	8·1
Inter-gonial width, outside .	9·2
Breadth of ascending ramus .	3·4
Special features . . .	...

Measurements of Crania of members of Gurungs (a fighting tribe of Nepal).

Province or State and District	Darjeeling.	Darjeeling.
Collection mark	Side No. $\frac{62}{8}$ frontal	Side No. $\frac{63}{9}$ frontal
Age	...	...
Sex	Male.	Female.
Cubic capacity	*1515*	*1160*
Glabello-occipital length	18·0	16·8
Basi-bregmatic height	13·6	13·4
Vertical Inde	*75·56*	*79·76*
Minimum frontal diameter	9·6	8·6
Stephanic diameter	9·8	8·3
Asterionic diameter	10·5	9·7
Greatest parieto-squamous breadth	13·8	12·4
Cephalic Index	*76·67*	*73·81*
Horizontal circumference	52·0	47·5
Frontal longitudinal arc	13·0	12·0
Parietal longitudinal arc	13·0	11·5
Occipital longitudinal arc	11·5	10·9
Total longitudinal arc	37·5	34·4
Vertical transverse arc	31·5	28·7
Length of foramen magnum	4·0	4·0
Basi-nasal length	10·0	10·0
Basi-alveolar length	9·4	9·0
Gnathic Index	*94*	*90*
Interzygomatic breadth	13·1	12·0
Intermalar breadth	11·4	10·8
Nasio-mental length	11·6	10·3
Nasio-alveolar length	7·4	6·2
Complete facial Index	*88·55*	*85·83*
Nasal height	5·2	5·1
Nasal width	2·4	2·5
Nasal Index	*46·5*	*49·02*
Orbital width	4·0	3·6
Orbital height	3·1	3·5
Orbital Index	*77·50*	*97·2*
Palato-maxillary length	4·5	4·5
Palato-maxillary breadth	6·2	6·2
Palato-maxillary Index	*137·77*	*137·77*
Symphysial height of the lower jaw	3·4	2·6
Coronoid height of the lower jaw	6·0	5·3
Condyloid height of the lower jaw	5·8	6·2
Gonio-symphysial length	3·6	6·2
Inter-gonial width, outside	9·5	9·8
Breadth of ascending ramus	3·4	2·7
Special features	...	...

Measurements of Cranium of a Sonwār, a sub tribe of Bhuinhars (land owners and farmers).

Province or State and District	Darjeeling.
Collection mark	Side No. $\frac{72}{18}$ front.
Age	...
Sex	Male.
Cubic capacity	*1330*
Glabello-occipital length	18·1
Basi-bregmatic height	12·5
Vertical Index	*69·06*
Minimum frontal diameter	9·8
Stephanic diameter	11·6
Asterionic diameter	9·3
Greatest parieto-squamous breadth	13·4
Cephalic Index	*74·03*
Horizontal circumference	50·0
Frontal longitudinal arc	13·2
Parietal longitudinal arc	13·0
Occipital longitudinal arc	11·0
Total longitudinal arc	37·2
Vertical transverse arc	30·2
Length of foramen magnum	3·6
Basi-nasal length	9·5
Basi-alveolar length	8·2
Gnathic Index	*86·32*
Interzygomatic breadth	12·5
Intermalar breadth	11·1
Nasio-mental length	11·6
Nasio-alveolar length	7·0
Complete facial Index	*92·80*
Nasal height	5·0
Nasal width	2·4
Nasal Index	*48·0*
Orbital width	4·0
Orbital height	3·5
Orbital Index	*87·50*
Palato-maxillary length	4·4
Palato-maxillary breadth	6·3
Palato-maxillary Index	*143·18*
Symphysial height of the lower jaw	3·1
Coronoid height of the lower jaw	5·8
Condyloid height of the lower jaw	6·0
Gonio-symphysial length	8·6
Inter-gonial width, outside	9·4
Breadth of ascending ramus	3·2
Special features	...

Measurements of Crania of Lepchas (a hill tribe).

	Province or State and District	Darjeeling.	Darjeeling.	Darjeeling.
	Collection mark	Side No. 66	Side No. 67	Side No. 68
	Age	...	...	...
	Sex	Male.	Male.	Female.
A	Cubic capacity	*1690*	*1330*	*1260*
	Glabello-occipital length	18·7	17·4	18·8
	Basi-bregmatic height	13·4	13·4	13·8
	Vertical Index	*71·66*	*77·01*	*73·4*
	Minimum frontal diameter	9·0	9·3	9·5
	Stephanic diameter	11·2	9·9	10·4
	Asterionic diameter	10·9	10·9	10·4
	Greatest parieto-squamous breadth	13·8	13·5	12·9
	Cephalic Index	*73·80*	*77·59*	*68·62*
	Horizontal circumference	52·8	50·0	50·9
	Frontal longitudinal arc	13·8	12·0	13·2
	Parietal longitudinal arc	15·3	13·3	12·8
	Occipital longitudinal arc	11·4	10·5	11·0
	Total longitudinal arc	40·5	35·8	37·0
	Vertical transverse arc	32·0	·0	30·2
	Length of foramen magnum	3·6	3·5	3·5
	Basi-nasal length	9·2	10·0	10·5
	Basi-alveolar length	9·2	9·5	10·0
	Gnathic Index	*100·0*	*95 0*	*95·24*
	Interzygomatic breadth	13·0	13·0	13·2
	Intermalar breadth	11·4	12·0	12·0
	Nasio-mental length	10·5	12·6	11·4
	Nasio-alveolar length	6·2	7·6	6·8
	Complete facial Index	*80·77*	*96·92*	*86·36*
	Nasal height	4·6	5·6	5·0
	Nasal width	2·5	3·0	2·5
	Nasal Index	*54·35*	*53·57*	*50·0*
	Orbital width	3·6	3·7	4·2
	Orbital height	3·3	3·7	3·2
	Orbital index	*91·67*	*1*	*76·19*
	Palato-maxillary length	4·8	5·0	5·3
	Palato-maxillary breadth	6·5	7·0	*26·7*
	Palato-maxillary index	*135·42*	*140·0*	*126·42*
	Symphysial height of the lower jaw.	2·7	3·0	3·7
	Coronoid height of the lower jaw	5·2	6·0	6·5
	Condyloid height of the lower jaw	5·5	6·1	6·5
	Gonio-symphysial length	8·8	8·5	9·2
	Inter-gonial width, outside	10·0	10·4	10·5
	Breadth of ascending ramus	3·0	3·5	3·6
	Special features	A	...	...

A. Extraordinary cubic capacity of the cranium and presence of wormi n bones

Measurements of Crania of Kols (ploughmen and field labourers).

Province or State and District	Singhbhum.	Orissa Hills.	Orissa Hills.	Orissa Hills.
Collection mark	Sid^e No. 31 Frontal No. 19.	Frontal No. 440	442	444
Age	20	...	...	...
Sex	Male	...	...	...
Cubic capacity	*1200*	*1470*	*1180*	*1220*
Glabello-occipital length	17·5	18·2	17·6	17·8
Basi-bregmatic height	13·0	13·8	13·0	13
Vertical index	*74·3*	*75·82*	*73·9*	*73·03*
Minimum frontal diameter	8·0	10·1	9·4	·5
Stephanic diameter	11·0	12·1	10·7	11·0
Asterionic diameter	10·6	10·6	10·1	10·4
Greatest parieto-squamous breadth	13·2	13·7	12·7	12·7
Cephalic Index	*75·4*	*75·3*	*72·2*	*71·3*
Horizontal circumference	49·2	51·5	49·5	49·7
Frontal longitudinal arc	12·2	13·0	12·2	12·4
Parietal longitudinal arc	12·1	13·2	13·0	13·6
Occipital longitudinal arc	11·6	12·0	10·8	10·4
Total longitudinal arc	35·9	38·2	36·0	36·4
Vertical transverse arc	29·0	31·2	25·7	29·5
Length of foramen magnum	3·1	3·4	3·1	3·3
Basi-nasal length	9·5	10·1	10·1	10·1
Basi-alveolar length	8·6	10·0	8·9	...
Gnathic Index	*90·5*	*99·1*	*98·0*	...
Interzygomatic breadth	13·1	13·3	...	...
Intermalar breadth	11·9	12·0	...	...
Nasio-mental length	...	...	...	...
Nasio-alveolar length	6·3	6·8	6·5	...
Complete facial Index	...	...	...	...
Nasal height	5·0	5·4	4·8	...
Nasal width	2·6	2·5	2·2	...
Nasal index	*52·0*	*46·31*	*45·8*	...
Orbital width	4·0	4·0	3·9	...
Orbital height	3·2	3·3	3·4	...
Orbital Index	*80·0*	*82·5*	*87·2*	...
Palato-maxillary length	4·7	6·0	5·5	...
Palato-maxillary breadth	6·6	6·9	6·5	...
Palato-maxillary Index	*140·0*	*115·3*	*11·8*	...
Symphysial height of the lower jaw.	3·0	...	...	...
Coronoid height of the lower jaw.	6·6	...	...	...
Condyloid height of the lower jaw.	6·1	...	...	...
Gonio-symphysial length	8·5	...	...	...
Inter-gonial width, outside	9·1	...	...	...
Breadth of ascending ramus	3·2	...	...	...
Special features	B	...	...	...

B. Has murderer's bumps (phrenological) and was convicted of murder.

Measurements of Crania of Bhuiyas (Serf Ploughmen).

Province or State and District	Orissa Hills.	Orissa Hills.	Orissa Hills.	Ranchi.	Ranchi.
Collection mark	438	439	441	599	602
Age	...	...	...	—	—
Sex	...	...	...	—	—
Cubic capacity	*1260*	*1330*	*1438*	*1170*	*1270*
Glabello-occipital length	17·7	17·5	19·0	1·8	18·0
Basi-bregmatic height	13·1	14·2	13·6	12·5	13·2
Vertical Index	*74·0*	*81·1*	*71·58*	*70·22*	*73·33*
Minimum frontal diameter	8·9	9·4	9·5	9·2	8·9
Stephanic diameter	11·0	11·2	11·6	10·3	10·2
Asterionic diameter	9·6	10·9	10·6	9·8	10·0
Greatest parieto-squamous breadth	13·3	13·0	13·2	12·3	13·0
Cephalic Index	*73·1*	*74·3*	*69·8*	*69·10*	*72·22*
Horizontal circumference	49·0	49·2	52·0	49·1	49·4
Frontal longitudinal arc	13·0	12·8	13·0	13·0	12·2
Parietal longitudinal arc	12·5	12·0	12·0	13·0	12·6
Occipital longitudinal arc	10·9	11·4	13·3	9·6	11·3
Total longitudinal arc	36·4	36·2	38·3	35·6	36·1
Vertical transverse arc	30·5	31·3	30·2	28·5	29·6
Length of foramen magnum	3·1	3·4	3·6	3·6	3·5
Basi-nasal length	9·5	10·3	10·5	9·1	10·2
Basi-alveolar length	...	10·3	10·0	9·0	9·9
Gnathic Index	...	*100·0*	*95·2*	*98·9*	*97·0*
Interzygomatic breadth	11·5	13·3	13·1	12·2	13·1
Intermalar breadth	10·3	12·2	11·7	1·2	11·8
Nasio-mental length	...	...	...	11·2	10·4
Nasio-alveolar length	...	6·5	6·7	6·5	6·4
Complete facial Index	...	...	...	*91·80*	*79·39*
Nasal height	...	5·0	5·0	4·6	5·0
Nasal width	...	2·5	2·6	2·3	2·1
Nasal Index	...	*50*	*52·0*	*50·0*	*42·0*
Orbital width	4·0	3·8	3·8	3·9	6
Orbital height	3·8	3·1	2·9	—	·2
Orbital Index	*95·0*	*81·6*	*76·3*	—	*88·9*
Palato-maxillary length	...	5·4	5·6	5·4	5·3
Palato-maxillary breadth	...	6·6	6·5	6·1	6·0
Palato-maxillary Index	...	*122·2*	*110·0*	*112·96*	*113·21*
Symphysial height of the lower jaw.	...	...	...	3·0	2·2
Coronoid height of the lower jaw.	...	...	...		
Condyloid height of the lower jaw.	..	...	...	5·0	6·5
Gonio-symphysial length	...	...	...	5·2	6·0
Inter-gonial width, outside	...	...	...	8·3	8·0
Breadth of ascending ramus	...	...	...	9·8	9·4
Special features	...	...	A	3·0	3·3
				—	—

A. There are three large wormian bones in this skull.

Measurements of Cranium of a Shan.

Province or State and District .	Burma. Side 40
Collection mark . . .	Frontal 29
Age	♂
Sex	Male
Cubic capacity . . .	*1380*
Glabello-occipital length . .	18·5
Basi-bregmatic height . .	13·0
Vertical Index	*70·27*
Minimum frontal diameter . .	10·0
Stephanic diameter . . .	10·4
Asterionic diameter . .	10·7
Greatest parieto-squamous breadth.	13·5
Cephalic Index	*72·97*
Horizontal circumference . .	52·5
Frontal longitudinal arc . .	13·3
Parietal longitudinal arc . .	14·0
Occipital longitudinal arc . .	10·4
Total longitudinal arc . .	10·5
Vertical transverse arc . .	31·8
Length of foramen magnum .	4·0
Basi-nasal length . . .	9·6
Basi-alveolar length . .	9·1
Gnathic Index	*93·79*
Interzygomatic breadth . .	11·5
Intermalar breadth . . .	11·4
Nasio-mental length . . .	16·1
Nasio-alveolar length . .	2·7
Complete facial Index . .	*85·22*
Nasal height	5·2
Nasal width	2·6
Nasal Index	*50·0*
Orbital width	3·6
Orbital height	3·6
Orbital Index	*100·0*
Palato-maxillary length .	4·8
Palato-maxillary breadth . .	6·4
Palato maxillary Index . .	*133·33*
Symphysial height of the lower jaw	2·8
Coronoid height of the lower jaw	6·0
Condyloid height of the lower jaw	6·0
Gonio-symphysial length . .	8·1
Inter-gonial width, outside .	8·6
Breadth of ascending ramus .	2·8
Special feature . . .	A

A. The inter-orbital space measures 3 m. m.

Measurements of Crania of Telis (oil pressers).

Province or State and District .	Pittoria in Ranchi	Malda Bengal S. 14 F. 1
Collection mark	598	
Age	—	28
Sex	—	Mae.
Cubic capacity . . .	*1370*	*1310*
Glabello-occipital length . .	18·4	18·5
Basi-bregmatic height . .	13·8	13·8
Vertical Index	*75·0*	*74·59*
Minimum frontal diameter .	9·5	9·5
Stephanic diameter . . .	10·9	10·7
Asterionic diameter . .	10·8	10·5
Greatest parieto-squamous breadth.	13·4	12·8
Cephalic Index	*72·83*	*69·19*
Horizontal circumference .	50·8	50·5
Frontal longitudinal arc . .	12·5	13·4
Parietal longitudinal arc .	14·0	11·5
Occipital longitudinal arc .	11·3	12·5
Total longitudinal arc . .	37·8	37·4
Vertical transverse arc . .	29·2	31·0
Length of foramen magnum .	3·6	3·7
Basi-nasal length . . .	10·2	10·5
Basi-alveolar length . .	9·7	10·0
Gnathic Index	*95·10*	*95·24*
Interzygomatic breadth . .	13·4	12·2
Intermalar breadth . . .	12·0	11·0
Nasio-mental length . .	11·0	11·2
Nasio-alveolar length . .	6·7	7·0
Complete facial Index . .	*64·55*	*91·8*
Nasal height	4·7	5·4
Nasal width	2·5	2·7
Nasal Index	*53·2*	*50·0*
Orbital width . . .	3·9	4·0
Orbital height . . .	3·1	3·3
Orbital Index	*79·5*	*82·50*
Palato-maxillary length . .	5·3	5·4
Palato-maxillary breadth . .	6·5	6·2
Palato-maxillary Index . .	*122·6*	*114·81*
Symphysial height of the lower jaw.	2·8	3·0
Coronoid height of the lower jaw.	6·4	6·0
Condyloid height of the lower jaw.	—	6·1
Gonio-symphysial length . .	8·2	9·4
Inter-gonial width, outside .	9·5	9·5
Breadth of ascending ramus .	2·8	3·4
Special features . . .	A	A.

A. There are wormian bones in these skulls.

Measurements of Crānia of Gāros (a hill tribe of cultivators).

Province or State and District	Garo Hills.	Navalpara, Garo Hills.
Collection mark	S. No. 17 F. No. 4	360
Age	...	35
Sex	♂	♂
Cubic capacity	*1280*	*1160*
Glabello-occipital length	18·6	17·5
Basi-bregmatic height	14·5	12·8
Vertical Index	*77·96*	*73·14*
Minimum frontal diameter	9·4	9·2
Stephanic diameter	9·9	10·5
Asterionic diameter	11·3	10·4
Greatest parieto-squamous breadth.	13·4	12·3
Gnathic Index	*72·04*	*70·29*
Horizontal circumference	51·8	48·7
Frontal longitudinal arc	13·2	12·0
Parietal longitudinal arc	13·5	12·5
Occipital longitudinal arc	10·8	11·0
Total longitudinal arc	37·5	35·5
Vertical transverse arc	31·0	29·0
Length of foramen magnum	3·5	3·5
Basi-nasal length	10·9	9·8
Basi-alveolar length	10·6	10·5
Gnathic Index	*97·24*	*107·14*
Interzygomatic breadth	13·3	13·2
Intermalar breadth	11·5	11·3
Nasio-mental length	11·5	10·0
Nasio-alveolar length	7·0	6·0
Complete facial Index	*86·47*	*75·76*
Nasal height	5·0	4·9
Nasal width	2·7	2·6
Nasal Index	*54·0*	*53·06*
Orbital width	4·0	4·0
Orbital height	3·4	3·1
Orbital Index	*85·0*	*77·50*
Palato-maxillary length	5·3	5·4
Palato-maxillary breadth	7·0	6·2
Palato-maxillary Index	*132·08*	*114·81*
Symphysial height of the lower jaw	3·5	2·5
Coronoid height of the lower jaw	5·7	6·3
Condyloid height of the lower jaw	5·6	6·4
Gonio-symphysial length	8·7	8·5
Inter-gonial width, outside	10·3	10·3
Breadth of ascending ramus	3·3	
Special features	A.	

A. There are wormian bones in this skull.

Measurements of the Cranium of a Santāl (a forest tribe).

Province or State and District .	Manbhum
Collection mark	18/5
Age	45
Sex	♂
Cubic capacity . . .	*1414*
Glabello-occipital length . .	18·3
Basi-bregmatic height . .	13·1
Vertical Index . . .	*71·6*
Minimum frontal diameter .	9·4
Stephanic diameter . . .	11·5
Asterionic diameter . . .	10·5
Greatest parieto-squamous breadth.	13·3
Cephalic Index . . .	*72·7*
Horizontal circumference . .	51·7
Frontal longitudinal arc . .	13·5
Parietal longitudinal arc . .	13·5
Occipital longitudinal arc . .	11·4
Total longitudinal arc . .	38·4
Vertical transverse arc . .	30·2
Length of foramen magnum .	3·6
Basi-nasal length . . .	9·5
Basi-alveolar length . .	9·2
Gnathic Index . . .	*96·84*
Interzygomatic breadth . .	12·9
Intermalar breadth . . .	11·0
Nasio-mental length . .	12·0
Nasio-alveolar length . .	6·6
Complete facial Index . .	*93·02*
Nasal height	5·0
Nasal width	2·6
Nasal Index	*52·0*
Orbital width	3·8
Orbital height	3·3
Orbital Index . . .	*86·8*
Palato-maxillary length . .	*5·3*
Palato-maxillary breadth . .	*6·1*
Palato-maxillary Index . .	*115·5*
Symphysial height of the lower jaw.	3·5
Coronoid height of the lower jaw.	6·5
Condyloid height of the lower jaw.	5·8
Gonio-symphysial length . .	9·1
Inter-gonial width, outside .	9·6
Breadth of ascending ramus .	3·0
Special features . . .	—

Measurements of the Cranium of a Koya or Kayadore (a forest tribe).

Province or State and District .	Upper Godavari District.
Collection mark	284
Age	50
Sex	♂
Cubic capacity . . .	1270
Glabello-occipital length . .	18·1
Basi-bregmatic height . .	12·6
Vertical Index . . .	*69·61*
Minimum frontal diameter .	8·7
Stephanic diameter . . .	11·2
Asterionic diameter . . .	10·4
Greatest parieto-squamous breadth	12·9
Cephalic Index . . .	*71·3*
Horizontal circumference . .	49·8
Frontal longitudinal arc . .	12·8
Parietal longitudinal arc . .	12·0
Occipital longitudinal arc . .	11·0
Total longitudinal arc . .	35·8
Vertical transverse arc . .	29·0
Length of foramen magnum .	3·5
Basi-nasal length . . .	10·0
Basi-alveolar length . . .	9·6
Gnathic Index . . .	*96·0*
Interzygomatic breadth . .	11·9
Intermalar breadth . . .	10·9
Nasio-mental length . . .	10·0
Nasio-alveolar length . .	6·0
Complete facial Index . .	*84·0*
Nasal height	4·8
Nasal width	2·7
Nasal Index	*56·25*
Orbital width	3·8
Orbital height	2·9
Orbital Index . . .	*76·32*
Palato-maxillary length . .	5·2
Palato-maxillary breadth . .	5·9
Palato-maxillary Index . .	*113·46*
Symphysial height of the lower jaw.	2·8
Coronoid height of the lower jaw.	5·7
Condyloid height of the lower jaw.	5·3
Gonio-symphysial length . .	8·3
Inter-gonial width, outside .	9·5
Breadth of ascending ramus .	2·7
Special features . . .	...

Measurements of Crania of Orāons (a cultivating tribe of Assam).

Province or State and District	Ranchi.	Kanka village Ranchi.	Lālpur village Ranchi.
Collection mark	601	608	610
Age	...	...	...
Sex	...	...	...
Cubic capacity	*1250*	*1420*	*430*
Glabello-occipital length	17·4	18·6	19·0
Basi-bregmatic height	12·5	13·0	13·6
Vertical Index	*7·84*	*69·89*	*71·05*
Minimum frontal diameter	9·2	9·1	9·0
Stephanic diameter	10·5	10·4	10·4
Asterionic diameter	10·4	10·3	10·6
Greatest parieto-squamous breadth	13·1	13·2	12·9
Cephalic Index	*75·29*	*70·97*	*68·3*
Horizontal circumference	48·0	50·3	51·8
Frontal longitudinal arc	11·8	13·0	12·8
Parietal longitudinal arc	14·0	12·6	14·7
Occipital longitudinal arc	9·5	12·1	11·0
Total longitudinal arc	35·2	37·7	38·5
Vertical transverse arc	29·0	30·5	30·4
Length of foramen magnum	3·3	3·0	3·5
Basi-nasal length	9·5	10·3	10·1
Basi-alveolar length	9·1	9·8	...
Gnathic Index	*95·8*	*95·1*	...
Interzygomatic breadth	12·3	12·7	13·0
Intermalar breadth	10·8	11·5	12·4
Nasio-mental length	...	10·8	10·6
Nasio-alveolar length	6·1	6·4	...
Complete facial Index	..	8·5	...
Nasal height	4·6	4·8	5·0
Nasal width	2·2	2·6	2·7
Nasal Index	*47·8*	*54·2*	*54·0*
Orbital width	3·6	3·1	3·7
Orbital height	3·0	3·3	3·3
Orbital Index	*83·3*	*83·8*	*89·2*
Palato-maxillary length	4·8	5·2	...
Palato-maxillary breadth	5·5	6·7	7·2
Palato-maxillary Index	*114·5*	*128·8*	...
Symphysial height of the lower jaw	...	2·7	...
Coronoid height of the lower jaw	...	5·7	7·2
Condyloid height of the lower jaw	...	6·0	6·7
Gonio-symphysial length	...	8·0	9·0
Inter-gonial width, outside	...	8·9	10·6
Breadth of ascending ramus	.	3·3	3·4
Special features	Δ	...	...

Δ Wormian bones are present in this skull.

Measurements of Crania of Mundas (a large Dravidian tribe of Chutia Nagpur).

Province or State and District	Lodhar, Ranchi.	Lodhar, Ranchi.	Lodhar, Ranchi.	Lodhar, Ranchi.	Jardaru.	Kakadeh.	Lālpur, Ranchi.
Collection mark	603	606	607	612	S. 25 F. 12	26 13	611
Age	...	...	...	...	...	...	...
Sex	Male	Male	Female	Male	Male	Male	...
Cubic capacity	1380	1320	1000	1310	1250	1200	*1110*
Glabello-occipital length	18·0	18·3	16·5	18·6	17·6	17·9	16·8
Basi-bregmatic height	13·1	13·3	13·0	12·9	13·2	12·8	1·6
Vertical Index	*72·78*	*72·68*	*8·79*	*71·67*	*75·0*	*71·5*	*75·0*
Minimum frontal diameter	9·6	8·9	8·8	9·0	8·9	8·9	9·2
Stephanic diameter	10·2	9·9	8·9	10·0	10·2	10·5	9·7
Asterionic diameter	10·4	9·9	8·9	10·5	10·5	10·0	9·3
Greatest parieto-squamous breadth	13·4	13·1	11·2	12·9	12·3	12·7	12·2
Cephalic Index	*74·4*	*71·6*	*67·88*	*71·7*	*69·9*	*70·9*	*72·6*
Horizontal circumference	49·3	49·8	44·8	49·1	48·8	49·1	46·0
Frontal longitudinal arc	12·4	12·4	11·2	12·0	12·5	11·2	11·6
Parietal longitudinal arc	12·4	15·5	12·0	13·6	13·1	12·5	13·0
Occipital longitudinal arc	11·2	10·2	10·3	11·0	11·1	11·8	9·9
Total longitudinal arc	36·0	38·1	33·5	33·6	36·7	35·5	34·5
Vertical transverse arc	30·1	28·7	27·7	29·1	27·8	28·5	28·0
Length of foramen magnum	3·3	3·6	3·1	3·2	3·5	3·5	3·2
Basi-nasal length	10·1	9·4	9·8	9·6	9·1	10·1	9·3
Basi-alveolar length	9·3	9·3	9·5	9·6	8·8	9·5	...
Gnathic Index	*92·08*	*98·94*	*96·94*	*100·0*	*96·7*	*94·1*	...
Interzygomatic breadth	12·8	13·1	11·5	12·8	12·3	12·2	12·0
Intermalar breadth	11·8	12·0	10·9	11·8	11·2	10·9	11·0
Nasio-mental length	11·5	10·6	9·8	10·3	...	10·7	...
Nasio-alveolar length	6·2	6·6	5·4	...	5·9	6·2	...
Complete facial Index	*89·84*	*80·92*	*85·22*	*80·4*	...	*87·7*	*8·3*
Nasal height	4·7	4·8	4·1	4·5	4·5	4·7	4·2
Nasal width	2·3	2·5	2·4	. 5·5	2·3	2·6	2·2
Nasal Index	*48·9*	*52·1*	*58·5*	*55·5*	*51·1*	*53·3*	*52·4*
Orbital width	3·3	3·7	3·7	3·6	3·5	3·9	3·7
Orbital height	3·3	2·9	3·0	3·1	3·4	3·1	3·4
Orbital Index	*76·*	*78·4*	*81·1*	*86·1*	*97·14*	*79·5*	*9 ·9*
Palato-maxillary length	4·	5·6	5·1	...	4·9	5·3	...
Palato-maxillary breadth	6·	...	6·2	...	6·2	6·6	...
Palato-maxillary Index	*128·5*	...	*121·5*	...	*126·0*	*124·0*	...
Symphysial height of the lower jaw.	3·1	3·1	2·7	...	...	2·9	2·2
Coronoid height of the lower jaw	6·5	...	5	6·3	...	6·2	6·2
Condyloid height of the lower jaw	6·3	...	5	5·9	...	6·0	6·4
Gonio-symphysial length	8·6	8·6	8·0	8·8	...	8·6	8·5
Inter-gonial width, outside	9·5	9·2	9·3	9·3	...	9·9	10·0
Breadth of ascending ramus	3·7	3·5	3·3	3·1	...	3·0	3·5
Special features	...	...	...	...	...	A	...

There is a large wormian bone measuring 4·2 × 4·2 M. M.

Measurements of Crania of Dhobis (washermen).

Province or State and District .	Calcutta.	Birbhum.
Collection mark	S. No. 45 F. No. 35	558 80
Age	...	...
Sex	...	...
Cubic capacity	*1260*	*1200*
Glabello-occipital length . .	18·1	17·8
Basi-bregmatic height . .	13·3	12·8
Vertical Index	*73.48*	*71·91*
Minimum frontal diameter .	9·5	9·1
Stephanic diameter . . .	11·0	10·2
Asterionic diameter . . .	10·0	10·8
Greatest parieto-squamous breadth	12·7	12·8
Cephalic Index	*70·17*	*71·91*
Horizontal circumference .	30·2	49·3
Frontal longitudinal arc . .	12·6	11·8
Parietal longitudinal arc . .	13·0	13·0
Occipital longitudinal arc . .	11·4	11·2
Total longitudinal arc . .	37·0	36·6
Vertical transverse arc . .	30·6	28·0
Length of foramen magnum .	3·3	3·3
Basi-nasal length . . .	9·7	9·8
Basi-alveolar length . . .	9·2	...
Gnathic Index .	*94·85*	...
Interzygomatic breadth . .	12·5	13·4
Intermalar breadth . . .	10·8	12·4
Nasio-mental length . . .	11·2	...
Nasio-alveolar length . .	6·8	...
Complete facial Index . .	*89·60*	...
Nasal height	5·0	4·5
Nasal width	2·5	2·6
Nasal Index	*50·0*	*57·8*
Orbital width . . .	4·0	4·1
Orbital height	3·4	3·1
Orbital Index	*85·0*	*75·61*
Palato-maxillary length . .	4·8	...
Palato-maxillary breadth . .	6·5	...
Palato-maxillary Index . .	*135·42*	...
Symphysial height of the lower jaw	3·1	...
Coronoid height of the lower jaw	5·8	...
Condyloid height of the lower jaw	5·8	...
Gonio-symphysial length . .	9·0	...
Inter-gonial width, outside .	10·1	...
Breadth of ascending ramus	3·5	...
Special features . . .	...	A

A. There are wormian bones in this skull.

Measurements of the Cranium of a Kalu (oilman).

Province or State and District	Bhukailas. Calcutta.
Collection mark	Side No. 44 Front No. 34.
Age	...
Sex	...
Cubic capacity	*1300*
Glabello-occipital length	18·3
Basi-bregmatic height	13·8
Vertical Index	*75·41*
Minimum frontal diameter	10·0
Stephanic diameter	10·7
Asterionic diameter	10·5
Greatest parieto-squamous breadth	12·6
Cephalic Index	*68·85*
Horizontal circumference	51·2
Frontal longitudinal arc	12·3
Parietal longitudinal arc	13·5
Occipital longitudinal arc	12·4
Total longitudinal arc	38·2
Vertical transverse arc	30·5
Length of foramen magnum	3·8
Basi-nasal length	10·0
Basi-alveolar length	9·5
Gnathic Index	*95·0*
Interzygematic breadth	12·5
Intermalar breadth	11·4
Nasio-mental length	11·2
Nasio-alveolar length	6·7
Complete facial Index	*89·60*
Nasal height	4·5
Nasal width	2·2
Nasal Index	*48·89*
Orbital width	3·7
Orbital height	3·2
Orbital Index	*86·49*
Palato-maxillary length	4·8
Palato-maxillary breadth	6·3
Palato-maxillary Index	*131·25*
Symphysial height of the lower jaw	3·2
Coronoid height of the lower jaw	5·8
Condyloid height of the lower jaw	6·1
Gonio-symphysial length	9·2
Inter-gonial width. outside	9·8
Breadth of ascending ramus	3·1
Special features	...

Measurements of the Cranium of a Korwa (a forest tribe of basket makers).

Province or State and District .	Sirjuga.
Collection mark . . .	Frontal No. 404
Age	28
Sex	Male.
Cubic capacity . . .	—
Glabello-occipital length . .	18·6
Basi-bregmatic height . .	13·7
Vertical Index . . .	*73·7*
Minimum frontal diameter .	9·1
Stephanic diameter . . .	10·5
Asterionic diameter . . .	10·7
Greatest parieto-squamous breadth	12·8
Cephalic Index . . .	*68·82*
Horizontal circumference . .	51·1
Frontal longitudinal arc . .	13·0
Parietal longitudinal arc . .	13·8
Occipital longitudinal arc . .	10·4
Total longitudinal arc . .	37·2
Vertical transverse arc . .	30·0
Length of foramen magnum .	3·6
Basi-nasal length . . .	10·5
Basi-alveolar length . . .	9·9
Gnathic Index . . .	*94·3*
Interzygomatic breadth . .	12·6
Intermalar breadth . . .	11·7
Nasio-mental length . .	10·6
Nasio-alveolar length . .	6·2
Complete facial Index . .	*84·13*
Nasal height	4·6
Nasal width	2·7
Nasal Index	*58·7*
Orbital width	3·9
Orbital height . . .	2·8
Orbital Index	*71·8*
Palato-maxillary length . .	5·4
Palato-maxillary breadth . .	6·5
Palato-maxillary Index . .	*120·37*
Symphysial height of the lower jaw	2·9
Coronoid height of the lower jaw	5·7
Condyloid height of the lower jaw	5·4
Gonio-symphysial length . .	9·0
Inter-gonial width, outside .	9·6
Breadth of ascending ramus .	2·9
Special features . . .	—